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ON
NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2017
AND
OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS
BEFORE THE
COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED FOURTEENTH CONGRESS
SECOND SESSION
SUBCOMMITTEE ON SEAPOWER AND
PROJECTION FORCES HEARING
ON
**DEPARTMENT OF THE NAVY 2017
BUDGET REQUEST AND SEAPOWER
AND PROJECTION FORCES**

HEARING HELD
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**DEPARTMENT OF THE NAVY 2017 BUDGET REQUEST
AND SEAPOWER AND PROJECTION FORCES**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
Washington, DC, Thursday, February 25, 2016.

The subcommittee met, pursuant to call, at 2:01 p.m., in room 2212, Rayburn House Office Building, Hon. J. Randy Forbes (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. J. RANDY FORBES, A REPRESENTATIVE FROM VIRGINIA, CHAIRMAN, SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Mr. FORBES. I want to welcome all of our members and the distinguished panel of Navy and Marine Corps leaders for today's hearing.

We are in a little bit of a time crunch because they will be calling votes and—just actually did. See, instead of being prophetic, I guess I am a historian. They just called the votes, so Mr. Courtney and I both are simply going to submit our opening statements for the record. I think Joe has agreed with that.

[The prepared statements of Mr. Forbes and Mr. Courtney can be found in the Appendix beginning on page 37.]

Mr. FORBES. So, with that, Mr. Stackley, if you could provide us your opening remarks—it is my understanding that you are the only one to provide opening remarks—and then we will recess, take the votes, and come back and begin with our questions.

So, Mr. Stackley, we are glad to have you here today.

As all of you know, Sean Stackley is the Assistant Secretary of the Navy for Research, Development, and Acquisition.

Thank you for being with us here today, and we look forward to your remarks.

STATEMENT OF HON. SEAN J. STACKLEY, ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION; ACCOMPANIED BY VADM JOSEPH P. MULLOY, USN, DEPUTY CHIEF OF NAVAL OPERATIONS, INTEGRATION OF CAPABILITIES AND RESOURCES (N8), AND LTGEN ROBERT S. WALSH, USMC, DEPUTY COMMANDANT, COMBAT DEVELOPMENT AND INTEGRATION

Secretary STACKLEY. Thank you.

Chairman Forbes, Ranking Member Courtney, distinguished members of the subcommittee, thank you for the opportunity to appear before you today to address Department of the Navy acquisition programs.

Joining me today are Deputy Chief of Naval Operations for Capabilities and Resources, Vice Admiral Joe Mulloy, and Deputy Commandant for Combat Development and Integration, Lieutenant General Bob Walsh.

So, with the permission of the subcommittee, I propose to provide brief opening remarks and submit a formal statement for the record.

Mr. FORBES. Without objection, your full remarks will be submitted as part of the record.

Secretary STACKLEY. Thank you, sir.

On behalf of our Navy and Marine Corps, I would like to start by thanking this committee for your strong support in the 2016 defense authorization and appropriations bills. Not only has Congress fully supported our request, the committee increased funding for our most critical programs, sending a strong signal regarding the priority you place on the role of our Navy and Marine Corps.

We are committed to making good on that investment, to uphold our end of our shared responsibility to protect the Nation, to take care of our men and women in uniform, and to do so in the most cost-conscious manner possible and protect the taxpayer.

We have been faithful to our fiscal responsibilities, leveraging every tool available to drive down cost. We have tightened requirements, maximized competition, increased the use of fixed-price contracts, and capitalized on multiyear procurements. And we have attacked our cost of doing business so that more of our resources can be dedicated to making warfighting capability.

However, fiscal challenges remain. Across the past 4 fiscal years, the Department of the Navy's budget has been reduced by \$30 billion compared to the funding that we determined was necessary to fully meet the Defense Strategic Guidance. This fiscal environment continues to drive tough choices and requires new thinking in order to improve the balance between capability, capacity, readiness, and the vital industrial base.

Because, independent of this fiscal environment, the demand for naval presence remains high. Today, greater than half of our fleet is at sea, and nearly 80,000 sailors and marines are deployed. So, from the Sea of Japan to the eastern Mediterranean, they are our first defense against the threat of ballistic missiles. And from the Straits of Hormuz to the Straits of Malacca, they are the providers of maritime security. And below the surface of the sea, they are our Nation's surest deterrent against the use of strategic weapons.

They are engaged in expeditionary maneuver from the Western Pacific to West Africa, ready to move ashore should conditions on the ground call for it, or provide humanitarian assistance wherever a disaster may occur.

Therefore, we have placed a priority on forward presence, near-term readiness, investment in those future capabilities critical to our long-term technical superiority and stability in our shipbuilding program. We are well on the way to a 300-ship Navy in 2019 and to meeting our overall requirement for a 308-ship Navy by 2021. In 2015, we delivered 6 ships to the Navy, but, more impressively, we launched an additional 9 and laid keels for 11 more ships.

We are preparing CVN 78, the *Gerald Ford*, our first new-design aircraft carrier in 40 years, for sea trials in June and continue construction on her sister ship, CVN 79, the *John F. Kennedy*. And in doing so, we have been successful to drive cost control and improved cost on these capital ships, and we will continue to do so.

We are also proceeding with planning material procurement to refuel CVN 73, the *George Washington*, scheduled to start next year. Meanwhile, DDG-1000, our first new destroyer design in 30 years, successfully completed her first at-sea trials in December and is readying to return to sea next month.

Meanwhile, DDG-51 construction is progressing well with the first restart ship, DDG-113, on track to deliver this year and follow ships 114 and 115 into the water. Equally important, we are on track to award the first Flight III destroyer with the air and missile defense radar later this year. And we look forward to working with you as we seek to award the additional DDG-51 that was incrementally funded by the 2016 defense bill.

The Littoral Combat Ship [LCS] reached a significant milestone in 2015 with the deliveries and commissioning of *Milwaukee* and *Jackson*. The construction program continues its strong cost improvement, and we are on track to award three LCS ships in 2016.

As you are aware, we revised the program 1 year ago to upgrade the LCS with increased capabilities. The first of these frigates is to be procured not later than 2019. But, as a result of the budget reductions since that decision, this year's budget downsizes the program from 52 to 40 ships. The two ships requested in 2017 are the minimum necessary to maintain a healthy industrial base until we can run a down-select competition for the frigate. We will keep you advised as we formulate the acquisition strategy for this revised program.

In submarines, the *Virginia* program continues to deliver below budget and ahead of schedule. The next major upgrade, *Virginia* Payload Modules, is on track to replace the undersea strike capability of the SSGNs, guided missile submarines, as they retire in the next decade.

And we continue to pick up the pace on design and development on the *Ohio* replacement program to support her critical schedule, releasing the contract solicitation for detail, design, and construction of the lead boat earlier this year.

In other major programs, the big-deck amphibious assault ship, *Tripoli*, LHA-7, is on track towards her 50 percent complete milestone. We are on schedule with LPD-17 class construction. And we are off to a good start building Hershel "Woody" Williams, our expeditionary stage base at NASSCO [National Steel and Shipbuilding Company] shipyard.

Meanwhile, we have commenced ordering material for a 12th LPD [Landing Platform/Dock] and are evaluating proposals for three major new programs to be awarded this year—the fleet oiler, T-AO(X); the next big-deck amphib, LHA-8; and the design for the LSD [Dock Landing Ship]-41/49 class replacement, LX(R). And, separately, we commenced procurement of our newest Ship-to-Shore Connector to provide high-speed surface transfer of the Marine Corps from the sea.

Now, this committee has long been interested in sustaining the Navy's cruiser force, and we are proceeding with the planning, material procurement, and execution for our cruiser and our LSD modernization programs. The first 4 of 11 remaining cruisers enter modernization this year in accordance with congressional legislation.

This budget requests an additional \$521 million across the Future Years Defense Plan [FYDP] in addition to the prior appropriated funding to support cruiser modernization, including \$183 million in 2017. But it proposes an alternative modernization plan within this funding profile to ensure the long-term capability and capacity for the air defense commander platforms.

Approximately \$3.5 billion would have been required in the 2017–2021 years to continue cruiser modernization per congressional direction. We are unable to fund this approach while our top line was decreasing. Nonetheless, we are committed to retaining these ships to perform the air defense commander mission into the 2040s. And the Navy's submission provides a path to do so while respecting previously approved global force management decisions for these ships.

In major aviation programs under the subcommittee's purview, the Navy's new maritime patrol aircraft, the P-8A Poseidon, is demonstrating its game-changing abilities today on deployment. Production continues smoothly, and we complete procurement of the 109 aircraft by 2019.

We continue to field the Navy's E-2D Advanced Hawkeye, replacing legacy early-warning aircraft with this new capability that would provide air defense far beyond that available to today's Navy. And, meanwhile, the Navy's high-endurance unmanned maritime surveillance aircraft, the Triton, is continuing integration activities and flight-testing at Pax River.

In summary, the Department's 2017 budget request has balanced the resources provided by the Bipartisan Budget Act [BBA] with our requirement to provide the capability, the capacity, and readiness necessary to uphold national policies, to protect our Nation, and assure our allies. We look for your continued strong support for this budget request, as you have shown in this year's 2016 budget.

Mr. Chairman, thank you for the opportunity to appear before you today, and we look forward to answering your questions.

[The joint prepared statement of Secretary Stackley, Admiral Mulloy, and General Walsh can be found in the Appendix on page 42.]

Mr. FORBES. Mr. Secretary, thank you so much for those remarks.

And I want to reiterate what the Secretary said. We also have with us today Vice Admiral Joe Mulloy, who is the Deputy Chief of Naval Operations for Integration of Capabilities and Resources.

Admiral, thank you for your service to our country, but thank you for always being willing to testify before us.

And, also, Lieutenant General Robert Walsh, who is the Deputy Commandant for Combat Development and Integration.

General, we appreciate you being here too.

To all three of you, as Mr. Courtney and I told you beforehand, we would each consider it a privilege to call any one or all three of you our friends. And we appreciate the service you have done for our country.

We do have a series of questions we have to ask, so please don't feel that those questions are in any way at you as much as they are to this budget and making sure we understand. This is probably one of the most bipartisan committees in Congress. It is probably one of the most bipartisan subcommittees. The range of expertise we have, each of our members are going to be able to ask you some very good questions on their subject matter.

But I want to kind of begin with an overview. I normally defer mine to the end, but I want us to start off—and I told you each this question a few minutes ago so you would have to time to think about it.

Tell us, if you would, is this budget a budget whereby you come before us and say, "This is the absolute best we believe we can do with the dollars that are given to us," or is this the budget that you have analyzed and looked at and said, "This is the budget we need to defend and protect the United States of America"?

And either one. This is a tag-team match, so you can have it. I am not trying to put anybody on the spot. We just want to get the answers. So whoever wants to handle that, we will let you do it.

Secretary STACKLEY. I will start.

First, it absolutely is the best we can do for the dollars that we have. I mean, that is just fundamental. The real question that you are asking, though, is whether this is sufficient, and that is obviously a tough question to answer.

And I would just go back historically and start with the Defense Strategic Guidance that we described goes back to the 2012 timeframe and that since then our budget has dropped by \$30 billion.

So, back in the 2012 timeframe, I think we laid out a strategic guidance that informed our investments, what we would need near-term, long-term, current readiness, future readiness, to provide for the security of the Nation.

Inside of the Department of the Navy, when you pull \$30 billion out of that, you have to be extraordinarily judicious to make those moves and not impair the security of the Nation. So, each year, each year, we have had to come back and reduce what our projection would be for defense of the Nation and do that in the best risk-balanced way we can.

So it is a—you are looking at a smaller budget and, therefore, reductions across every account—operations, maintenance—

Mr. FORBES. So I don't want to cut you off because I told you at the end you could have all the time you want, but I just want to get clarity for us. When you guys are coming here, you are basing this budget primarily on the dollars that you have been allocated as opposed to an assessment that says, "This is what we need overall to defend and protect the United States of America." Is that a fair statement?

Admiral, you look anxious to get in there.

Admiral MULLOY. Yes, sir. I would say that is a fair statement of looking at the dollars we have, especially in light of the 2017 Bipartisan Budget Act. And despite getting money in 2021 for the

Ohio, the incremental costs to *Ohio* replacement, we are constrained.

I will also tell you it takes time to analyze. We are looking at the world ahead, and one of the items we will talk later is the Force Structure Assessment, I am sure, is that we are going to start a new one. And the 308 Navy is based upon a force structure that was set back in 2012 and amended in 2014. At that point, there was a man named Putin who wasn't quite so active in the world, the Chinese hadn't grown as big, and all these five threats.

So we are going to take a hard look at it. What I will tell you is that we have done the best we can with what we have. But the projections will tell you is the threats to the United States of America are growing. And it is mirrored by myself talking to Admiral Haney and Admiral Harris in the last couple days. I think they will tell you the same thing from the combatant commander viewpoint.

Mr. FORBES. And they have been telling us that. And, as I said and I preface it and I will continue to say it because it is just true, you guys are the good guys. You guys are wonderful guys. But we just need to know what we are looking at with these dollars.

And the reality, Mr. Secretary, as we looked at that strategic guidance in 2012, the world has gotten a whole lot more threatening, I guess is the best way we can say, since 2012, and yet our numbers have gone down.

We looked at the fact Admiral Harris testified that we can only meet 62 percent of his needs for submarines right now. But, in addition to that, we all know in 2007 the Navy could meet 90 percent of the verified or validated requirements of our combatant commanders around the globe. This year, my understanding is we will be below 45 percent, give or take. That means we have cut it in half.

Are either of those two numbers acceptable numbers?

Secretary STACKLEY. Clearly not to the combatant commanders.

Mr. FORBES. Clearly not to—

Secretary STACKLEY. They set the requirements. Therefore, the answer you are going to get here is "clearly not."

Mr. FORBES. Good.

And the second thing is—and, again, you guys are good guys, so this is not directed at you. You are doing the best with what you have. We just need to know what we need.

When you talk about 308 ships, Mr. Secretary, by 2021, with the dollars that we currently have allocated and based on the dollars we have had, can we get to 308 ships with those dollars, or are we going to need more dollars to be able to get there?

Secretary STACKLEY. Yes, sir. Here is the fact. We are going to get to 308 ships independent of the 2017 budget; 2017 and beyond determines what size Navy we will have after 2021 because that is how long it takes to build a ship.

So the ships that will be delivered by 2021 have been authorized and appropriated in the years prior to this budget year. What we are setting in 2017 and beyond is the course for the size of the Navy past 2021.

Mr. FORBES. And as you heard and we talked about before this hearing, Eric Labs, in his testimony from the Congressional Budget Office [CBO]—and I don't think you refute that, that if we continue

with the degree of spending we have had for shipbuilding and ship construction on an average over the last 30 years, instead of increasing the number of ships, we will ultimately be down to 237 ships.

Is that a fair assessment that he made, or is that inaccurate?

Secretary STACKLEY. Let me put it in context. As we go forward, starting in 2021, you see a significant increase in our funding required to support a shipbuilding program due in large part to the *Ohio* replacement.

And I think Dr. Labs' assessment and the Navy's long-range shipbuilding plan both say the same thing. If we constrain our shipbuilding account to historic levels, then, due to the cost associated with building an *Ohio* replacement—and we are going to build it—other shipbuilding production lines are going to have to be cut significantly. And that will drive a significant reduction in the size of our Navy.

Mr. FORBES. Would his projection of 237, 238 ships be in the ballpark of what the Navy would assess it to be if we continue on course?

Secretary STACKLEY. I would say it is very close. You would have to make some assessment in terms of which ships would be built and not, but I would tell you that my number is probably in the 240 to 250 range.

Mr. FORBES. So we have a huge delta that we have to make up somewhere. Does the Navy have any idea where that delta would be made up today if we were to try to say how do we get those dollars?

Admiral MULLOY. Sir, it comes back to be a balance. I would not constrain it to shipbuilding, but then you have to pressurize every other aspect of the Navy. And what I will tell you is we would not be able to totally within the Navy come up with all that money.

So it goes back again to my discussions with the Secretary of Defense's staff, is that with that level of shipbuilding necessary and from 2021 on to 2035 to do *Ohio* replacement and all the other aspects we need for the combatant commanders is going to require very likely an effort from the Department of Defense and very likely from the whole country to raise.

Because, historically, when we built the *Trident*-class submarine, the Navy and Department of Defense budget went up, to a certain extent, to cover strategic forces. We saw the first inclination of that this year. In 2021, what you will see is that the first increment of that budget was funded with an increase in the Navy budget from OMB [Office of Management and Budget]. We need more of that from OMB and from Congress to be able to build the strategic force, build the Navy, operate the Navy, and then be part of the joint force, sir.

Mr. FORBES. Admiral, let me ask you this. Obviously, part of what we have to do in looking at our force structure is what we project some of our peer competitors to have in their force structure.

Let's go out to, let's say, 2025. The number of submarines we would be looking at then as a Navy if we stay on the current projections we have compared to the number of submarines that China

would have, let's say, in 2025, do we have any kind of estimate of the disparity between those two numbers?

Admiral MULLOY. Well, I mean, right now, we know they are somewhere around 70. And we can come back with a classified brief on the numbers. But our numbers will be dropping to below 48 by 2025 and going to a nadir of 41.

Mr. FORBES. By 2025, wouldn't we be at 41?

Secretary STACKLEY. No. By 2025, we will be at 48 submarines.

Mr. FORBES. About 2021 we will be at 41.

Secretary STACKLEY. In 2025—

Mr. FORBES. Oh, 2029 we will be at 41.

Admiral MULLOY. 2029, we will be at 41. Yes, sir.

Mr. FORBES. And do we have any unclassified projection of where they will be at that time?

Admiral MULLOY. At least 70, sir.

Mr. FORBES. Okay.

Admiral MULLOY. At least 70, and they are building. So, I mean, without a doubt—now, you get back into a whole quality-versus-quantity issue. But, at the same time, the Russians are also building—we talked about the other country there—is they are continuing building. They build much higher-end submarines. To their numbers, I am not ready to forecast—

Mr. FORBES. I gotcha.

Admiral MULLOY [continuing]. What they would have, but they are certainly building as well. So the threats on the undersea environment continue to go up with the number of submarines being built by everyone else.

And that comes back to this whole point about shipbuilding that I think we will start with and end on this day, is that the number of submarines we have was put in motion a long time ago, with not building and then not going to two a year, that we don't want to take that a case with DDGs [destroyers] or other ships is we need to continue to build or we will have a falloff in all our classes of ships if we don't on a regular basis.

So, once again, to support the Marines, we have to build the amphibs on a regular basis. And that is that competition Mr. Stackley talked about. Shipbuilding has to be able to go up, and is it coming out of the rest of the Navy, or is it coming out of DOD [Department of Defense], or is it coming as a conscious effort of this country to say shipbuilding is important enough? But the submarine program, is it asomatic or directly related to decisions made 10 to 15 years ago?

Mr. FORBES. Good.

Well, let's spin off from there, then, to the general, because, General, we don't want you to not play a role in this. The LPD-28, was that crucial to the Marine Corps, to get that LPD-28?

General WALSH. Thank you for the question, Chairman Forbes, and also Ranking Member Courtney and all of you for having us here and all you do for the Nation and for the Marine Corps.

I was in a unique position last year because I was up on the CNO [Chief of Naval Operations] staff, on the OPNAV staff, working the LX(R) [amphibious assault ship] program and working the LPD-28, trying to bridge that gap from LSD to the LX(R). So I think the LPD-28 will provide us that capability now that we have

made that decision to the LX(R) to be that derivative of the LPD-17, to use that common hull form, that the LPD-28 certainly provides us, you know, additional amphib capability in a great, you know, ship that we needed because of the amphib numbers. As you know, we are at 30 amphib ships right now, far below the requirement that we have.

So the committee helping us to add that 12th LPD is certainly going to be well-appreciated out in the operating forces.

Mr. FORBES. And, General, can you tell me what the Marine Corps requirement currently is?

General WALSH. Our requirement has always been 38 amphib ships.

Mr. FORBES. And how many do you have today?

General WALSH. And today, as we speak, we have 30.

Mr. FORBES. Was the LPD a luxury or was it a necessity for the Marine Corps?

General WALSH. Well, to get up to the requirement that we need, I think it certainly is one of those things that is required. So, going back to your sufficiency question, we are basing our numbers, you know, really on what the Department can afford.

Mr. FORBES. And I understand—and, you know, again, you guys are the good guys. We appreciate that. What we are trying to find out is whether the budget is driving what we are doing or whether our strategy is driving what we are doing.

And the main thing I am saying—you have a 38 requirement.

General WALSH. Right.

Mr. FORBES. Was that LPD a luxury or was it a necessity for the Marine Corps?

General WALSH. No, I would say it was a necessity to get us—so I think, if I could put it into perspective, we talked about combatant commander demand. Combatant commander demand is very high. But how to put that in perspective from our perspective would be, it has been a long time since we have really ever had any ships in the Mediterranean. We used to have Guard MEUs [Marine expeditionary units] in the Mediterranean.

We have been focused pretty much on the Central Command AOR [area of responsibility] for a long time, but as you look around in the AFRICOM [U.S. Africa Command] AOR and certainly the EUCOM [U.S. European Command] AOR, what is going on in Ukraine, Crimea, what you see taking place in North Africa with ISIL [Islamic State of Iraq and the Levant] spreading, the disorganization there in Libya, there is no question about it that the presence that we would like to have would be on amphibious warships in the Mediterranean.

Right now, as you are well aware, we have our Special Purpose Marine Air-Ground Task Force-Crisis Response-Africa that is bed down in Morón, Spain. Works between Morón, Spain; Sigonella, Sicily; and Souda Bay, Crete—back and forth between those places. We would much prefer to be on an amphibious warship to be able to provide that capability.

Mr. FORBES. Mr. Secretary, you just heard the general say that the LPD-28 was a necessity to the Marine Corps, but it wasn't included in the Navy's budget when you submitted it to us last year.

Why wasn't it included? Or do you disagree with the general that it was a necessity?

Secretary STACKLEY. No, we did include it in last year's budget. The 2016 budget included the funding required for the LPD—the balance of funding required for the LPD-28. We have the material on order. We expect to have that ship on contract at the end of this year.

The program of record that preceded the LPD-28, General Walsh is correct that 38 is the number of amphibians required to provide a full two Marine expeditionary brigade lift for major combat operations. That is 38 ships.

The CNO and the Commandant for 6 years now have agreed that 34 would be the objective number of amphibians for the force which takes on some risk. Of that 34, the mix of ships would be—at that time was decided to be 11 large-deck amphibians, 11 LPD-17-class ships, and 12 LSD-41/49 class.

By adding the LPD-28, one, that greatly relieves the risk associated with 34 versus 38 amphibians; two, it does provide a bridge for the industrial base between the end of construction of the LPD-17 and the LX(R); and most importantly was the Department of the Navy's decision that we would make LX(R)—we would design and build LX(R) as a modification to the LPD-17 hull form, for all the right reasons. And so now that LPD-28 helps to provide the bridge for the industrial base, for the design base, for the vendor base, as well as alleviating some of the lift considerations.

So now we will have 12 LPD-17s, the 11 big-deck amphibians, and then the LX(R) program, getting us up to about a 34-amphib force for the foreseeable future.

Mr. FORBES. Two last questions from me, and then we will go to Mr. Courtney.

The proposal you have is to take out a carrier air wing. What is the current statutory requirement for the number of carrier air wings that we are supposed to have?

Admiral MULLOY. Sir, the current statutory requirement is to have 10 air wings.

Mr. FORBES. And if we took one out, what would be down to at that point in time?

Admiral MULLOY. Yes, sir, we would be down to nine. And we intend to submit a legislative proposal requesting relief from that.

Mr. FORBES. Without that legislative proposal passing, are you able to take that carrier air wing out?

Admiral MULLOY. No, sir. It would be blocked by congressional action.

Mr. FORBES. Okay. And do you not have a proposal to begin doing that by October 1?

Admiral MULLOY. The proposal was to put that in motion, but none of the squadrons would actually be deactivated at that time. We funded the air wing and the squadron for what is called half-year, so the people and the operations are funded for half a year, with the anticipation we would have some time to be able to coordinate that.

Mr. FORBES. So the Navy is in a position to begin to put something in motion that statutorily they are prohibited from doing?

Admiral MULLOY. Yes, sir. We have to—that is why we send over the leg [legislative] proposal when the law was subsumed, was that we would be able to be able to come over and make that case, that we think that with the current lay-down of 11 nuclear aircraft carriers and their maintenance structure and the way they cycle through life, that 9 air wings actually lines up appropriately, such that they don't have air wings that don't have a carrier to go to, and we have had some air wings that have spent 4 years—

Mr. FORBES. How many carriers are we required to have statutorily?

Admiral MULLOY. Required to have 11, and we have 10 currently on a waiver, and we are building the *Ford*, sir.

Mr. FORBES. Okay. And if you have 10 carriers that are operational and one that is being refueled, how many air wings would you need to supply—

Admiral MULLOY. Normally, in the previous part of the Navy, that would be required to have one less. It would be 10. But as you look at the *Nimitz*-class aircraft carrier and the maintenance structure they go through, which is one of them is always in a 4-year refueling overhaul, one is always in the 16-month docking maintenance availability, and two are in 6-month availabilities, as you cycle through, right now, as we have laid out the carrier plan through 2025, at no time does an aircraft carrier that would be operational not have an air wing that would be part of their full what we call the Optimized Fleet Response Plan [OFRP]. This actually lines up that, in that plan, there are actually 3 air wings that will spend 11 to 22 months doing basic maintenance training and planning without an aircraft carrier to be attached to, given I only have 9 of the 11 aircraft carriers.

Mr. FORBES. So your testimony is, then, that you need to reduce the air wing not because of budgetary restraints but because you just don't need that carrier.

Admiral MULLOY. It is a combination of primarily—it aided me as a cost reduction there, but it was really lined up. We had looked at this a couple years when I was doing the transition of the squadrons, the flexibility of having an air wing offline long enough to change the airplanes from the Prowlers to the Growlers, the helicopters to new design, and the more Hornet—the Hornet E and Fs.

But, at this point in time, given the 11—or 10 and going to 11 aircraft carrier nuclear maintenance strategy—and the way air wings deploy is they don't go off like the Air Force AEF [air expeditionary force]—9 air wings actually lines up as the right business case, sir.

Mr. FORBES. Mr. Secretary, the last question for mine is: Navy came over a few years ago and they wanted to do away with some of our cruisers. Then they came back to us and said that, oh, we rethought that, and we really just want to modernize them, we don't want to kill them. And now they are coming back and want to lay them up again.

And we have a requirement for 88 high-end surface combatants. How do you get to that 88 without those cruisers? And, secondly, where is the money to bring those cruisers back? Is there any money proposed to do that, or is this just another way of saying we are going to euthanize these cruisers?

Secretary STACKLEY. Yes, let me start with the number of large surface combatants. In fact, with our build rate today, we do have a period of time where we not just meet our large surface combatant requirement, which is cruisers plus destroyers, but we do have excess, we have additional capacity. And so we actually get up to a number of about 100 surface combatants in the mid-2020s.

So that is not where our area of risk is. Our area of risk, in terms of the air defense commander, the capability that the cruisers provide, is when they start coming—they start decommissioning as early as 2020. So, in 2020, we start to decommission the first 11 cruisers. And the discussion that we are having today and the issue that we have been wrestling with the last several years is the modernization program for the last 11 cruisers. So we have four of them off and going, and by congressional legislation we would be allowed to induct two more in the 2017 budget.

The proposal that we have coming across in the budget provides some operations and maintenance, some operation in 2017, to allow the cruisers that are not in the modernization program to complete their deployments and their operational commitments. But after completing those, it would then bring those into the modernization program to then be allowed to harvest, frankly, the savings associated with demanning the ships, pulling them out of the operational cycle, and then offset some of the costs for modernization.

So we would not be modernizing them all at the same time. We would be doing that in a phased fashion, starting with the four that are already in the modernization program. We would be reactivating them, bringing them back in service, as the first 11 cruisers retire.

Mr. FORBES. Is this a change from the proposal you had last year?

Secretary STACKLEY. It is a marginal change, marginal change.

Mr. FORBES. That is a pretty big margin to me.

But, Mr. Courtney, you are recognized for any questions you might have.

Mr. COURTNEY. Thank you, Mr. Chairman.

And thank you to the witnesses for being here today. And I want to—

Secretary STACKLEY. Sir, I am sorry. Just to clarify, when you say the proposals—just to be clear, we had a proposal to Congress in the past to bring all of the 11 cruisers in the modernization at the same time. And you provided the legislation, what is known as 2-4-6.

Mr. FORBES. So what was your additional—what was your first proposal that you had for those cruisers? The very first one that the Navy came over with. Was it to modernize the cruisers?

Secretary STACKLEY. I think 3 years ago the proposal cut the funding and proposed to decommission seven of the cruisers.

Mr. FORBES. And then all of a sudden you came back to us, I think fair, and said, “No, we really don’t want to get rid of them. We have seen the error of our ways. We want to keep them in. We need them. We are going to modernize them.”

And now you are coming back and saying, “We are going to put them all up. We just don’t have any money to take them back out.”

Is that a fair statement?

Secretary STACKLEY. Well, the dollars to put them back in service are all beyond the FYDP. So we would be putting them back in service on a one-for-one basis——

Mr. FORBES. But, Mr. Secretary, is this decision being driven by dollars or by strategic concerns?

Secretary STACKLEY. Well, I would tell you, frankly, first, it is by dollars.

Mr. FORBES. That is what we thought.

Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman.

And, again, thank you to the witnesses for being here today.

I think as I mentioned to you beforehand, you know, the testimony we have had just in the last 2 days from two of our major combatant commanders, Admiral Harris and General Breedlove, has really underscored the seapower challenges that are out there and the importance of this subcommittee's portfolio, which is going to go first in this whole process of the four committees. And so, obviously, the testimony here today could not be of more critical nature for our Nation.

I also want to recognize Tom Crowley, who is here, the Director of [Naval] Programs for [the Navy Office of] Legislative Affairs, who has been really an incredible asset to this subcommittee over the last 10 years or so. I think this is going to be, if not the final, close to the final appearance here with us.

And I just want to thank you for your amazing advice that you gave to all of us and wish you good luck at NOAA [National Oceanic and Atmospheric Administration]. Now you can save the planet, you know, serving over there. And, again, we all appreciate your input and good guidance over the years.

Secretary Stackley, in your testimony, on page 11, you stated that it is the Navy's intention to contract for up to 10 boats in the Block V contract, which, again, we are in Block IV right now. Block V will commence in 2019. You know, that is a critical time period, given the decline in the submarine fleet size that was discussed earlier with Mr. Forbes.

And I think all of us appreciate the fact that you stated that that is the Navy's intention, is to really not slip from that two-sub-a-year build rate that we, you know, scratched and clawed so hard for starting in 2011. But, frankly, it is not about us. It is really about what the combatant commanders told us in the last 2 days about the critical need for as many undersea platforms as they could possibly acquire.

And so, I guess, you know, maybe you could talk for a little bit about how you plan to find, you know, the authorities, the savings, so that we can, again, protect that build rate which our combatant commanders desperately need.

Secretary STACKLEY. Yes, sir.

First, you start with the requirement. As has been discussed, we have a compelling need for additional attack submarines. Today at 52 boats; requirement of 48. We hit a valley of 41 boats in the 2030s. We start falling below the line in the late 2020s. That valley exists because of years that we didn't build any submarines and a long period of building one submarine a year.

We got up to two boats a year starting in 2011. Everyone has witnessed the improved performance, through learning curve, through economic order quantity, everything that has come together on the *Virginia* program to drive costs in the right direction. And now those boats are delivering two per year, ahead of schedule, under budget. And they are out there performing. They are our leading edge.

When the *Ohio* replacement starts construction, our long-term plan has one *Virginia* a year and one *Ohio* a year in those years. We still continue with two boats per year, but one of those is going to be the *Ohio* replacement. That helps to contribute to the shortfall in submarines, frankly. And the first time we hit that is going to be in 2021.

So we will be at two boats per year for a 10-year period, and then we are going to dip back down to one, come back up to two, and then we are going to dip back down to one as we build *Ohio* replacements. And we will be at one a year for a good while. That is not good for the Nation.

So that has been the long-term plan. It is as much about affordability as anything else because of the significant investment that *Ohio* replacement is going to require.

But as we sit here today with the 2017 budget being submitted and we are looking ahead to 2021, we are looking at the shortfall in the out-years, we have to do something different. We have to find an alternative to try to stave off that shortfall.

So, last year and the year prior, working with Congress, we have had the discussion about the types of authorities and the way that we would design and build the *Ohio* replacement to drive affordability into the program and to balance the industrial base. So we are looking at that now.

We have the design technical baseline done. We have the build plan that we have worked out with industry. We are going into the details. And as we do this, we are trying to identify, can we generate savings in the way we build the *Ohio* replacement to help to fund and finance that additional submarine in 2021?

It is not a part of the program of record. But if we don't work hard today, we will miss the opportunity entirely. And the most important boat in terms of trying to mitigate the impact associated with that shortfall is the 2021 boat, that second *Virginia* in that year. If we miss that opportunity, we will not be able to regain that later.

So we are working today—it is not a part of the program of record. That is why it says “up to.” But we are working today, and we hope and expect that you will work with us, to determine how can we keep two *Virginias* per year proceeding within all the fiscal constraints and within the limitations of the industrial base to address this compelling requirement for the Nation.

Mr. COURTNEY. Thank you.

I mean, obviously, this subcommittee is going to be all in, as far as trying to achieve that goal. In fact, I would say we were maybe a little bit ahead of the curve in terms of, you know, the measures that we passed the last couple of years in terms of the Sea-Based Deterrence Fund, which Dr. Labs and his team analyzed at the end of last year and said that, with the authorities that we incor-

porated into that fund, you know, multiyear authorities, economic order quantity savings, you know, buying across, you know, various ship programs, that he calculated \$10 billion in savings.

So maybe you could just talk a little bit about, you know, what you were thinking over, you know, down the street in terms of utilizing that as the mechanism to try and, again, protect these build rates down the road. Because, again, the message came through so loud and clear the last couple days about the fact that we really can't let that production rate slip.

Secretary STACKLEY. Yes, sir.

So, as I described, this past year, we have locked down the technical baseline for the *Ohio* replacement and the build strategy with our industrial base. So, this year, what we are doing is we are going to the next levels of details to identify: how are we going to procure the material; what are the material procurement items that we are going to go after first, in terms of long lead; what are the advance construction activities that we want to put in place not just for affordability but also to manage risk on the *Ohio* replacement schedule.

And, as we do that, we are looking side-by-side with the *Virginia* program, and, frankly, we are also looking at the carrier program going through these two shipyards at the same time. And so we are trying to identify where can we get savings associated with procuring material across multiple programs, but going for these large procurements that we get to leverage the volume on behalf of the government; exercise the advance construction authorities that you provided. We have already—in our budget exhibit, you see where we are requesting—we are laying out a new incremental funding profile consistent with the authorities that you provided.

We think that the tools that you have put in place, as we work through these details, we will be putting those tools to work to get those savings that the CBO has highlighted. And we think that is going to contribute greatly to trying to finance this additional submarine in 2021.

Mr. COURTNEY. Thank you.

Mr. FORBES. Mr. Byrne is recognized for 5 minutes.

Mr. BYRNE. Mr. Stackley, 2 years ago you remember that the Secretary of Defense recommended a reduction of the LCS program from 52 ships to 32 ships, and the Navy went through a several-month period of study to determine what the future was going to be for the LCS program. As a result of that, the decision was to go back up to the 52-ship buy, and the last 20 ships would be the upgraded frigates. And we funded it in the omnibus that year and the omnibus bill this past year. So we followed that, along with what the Navy and the Department of Defense asked us to.

Now, we are abruptly going back down to 40. So I am wondering if a similar analysis was performed in your decision to recommend going from 52 to 40 as you did when we decided to go back up to 52 and to upgrade to the frigate. Did you do a similar study or analysis to get to that?

Secretary STACKLEY. Sir, Admiral Mulloy made reference to a document that we refer to as the Force Structure Assessment. It is the CNO's document to take a look at what size and shape does our Navy need to be—numbers of ships by types.

And the most recent update to the Force Structure Assessment was done in 2014. And in there we outlined, by type of ships, small surface combatants—which the LCS is a small surface combatant—that we require 52 of these ships to perform our missions.

The decision a couple of years ago to stop construction of the LCS at 32 ships and then move to a more lethal, more survivable ship consistent with a frigate, we have procured 20 of those. That keeps the total number of small surface combatants at 52: 32 LCSs, 20 frigates.

We completed that design activity. The frigate is going to be a modification to the LCS, so we still meet our 52 requirement.

In this budget cycle, the decision was made—again, it comes down to the reductions in the budget. Reductions in the budget drove trades in terms of capability, near-term, long-term. And the decision was made, not based on Force Structure Assessment, the decision was made to reduce the number of small surface combatants to 40.

That would mean a reduction inside the FYDP from 14 down to 7. It drives it down-select to the program. And what we have tried to do with that decision is tried to stave off the down-select until we can we get to that frigate design, because that is what we do need for the balance of our small surface combatants.

Mr. BYRNE. But your decision was to go to 52, and now we have gone abruptly down to 40. So you have made the decision based upon what analysis, if any analysis, that is similar to what we did 2 years ago to do the 52 buy-in, to have the last 20 be the frigates?

Secretary STACKLEY. The Navy's analysis is captured by the Force Structure Assessment, which still requires 52 small surface combatants. The decision to go from 52 to 40 becomes a budget-driven decision and accepts risk with the small surface combatants.

Mr. BYRNE. So you still need the 52 surface combatants.

Secretary STACKLEY. In accordance with our Force Structure Assessment, yes, sir.

Mr. BYRNE. So, by recommending we go down to 40, you are not meeting your requirement for surface combatants, small surface combatants.

Secretary STACKLEY. The answer is we are taking risk in small surface combatants.

And, frankly, the Secretary of Defense, you know, he looked at the total force structure and described large surface combatants—we are going to get up to 100. So, in fact, we have more large surface combatants during this period of time. So he decided, well, we will take risk, we will use the large surface combatants to offset the small.

In the long term, what we have to do is make sure that that decision, in the long term, we don't end up going south in both large and small surface combatants.

Mr. BYRNE. And have you done a study about what this is going to do to the industrial base?

Secretary STACKLEY. We are working with the industrial base right now. Well, the clear statement—the clear statement is, with the numbers that we are talking about, we have to go to a down-select. So, while today we have two shipbuilders who have been in this program from day one—

Mr. BYRNE. And driven down costs.

Secretary STACKLEY [continuing]. And have invested in their facilities, have driven down costs, and are delivering in accordance with contracts and plans, once you go to this level of construction, you have to down-select. There is not enough workload there to sustain two shipyards.

Mr. BYRNE. But your request for the next year is for two ships, and we have been doing three ships, plus one forward-funded. So what is going down to two ships, even in the interim, going to do to the industrial base when you have two shipyards still operating?

Secretary STACKLEY. There will be a cost impact associated with going to two versus three, but it won't break the industrial base. What will break it will be the decision to down-select. That will drive, likely, one of those shipyards out of business, based on their other workload.

Mr. BYRNE. But it was—I am going to run out of time, but it was your decision, the Navy's decision, that you liked having two competing shipyards because that helped drive down your costs. Are you concerned it is going to drive your prices back up?

Secretary STACKLEY. Wherever we have competition we have better outcomes in terms of not just cost but also in terms of innovation.

And so what we would have to do—again, we are formulating the acquisition strategy. But, in that down-select, we would likely down-select for the balance of the program, so we exit the program with competition and not end up in a sole-source scenario. But when you do that, you add risk—you add significant risk to the program.

Mr. BYRNE. My time is out, but I have some further questions to submit to you later in writing. Thank you, sir.

Mr. FORBES. And I think, for clarification, what Mr. Byrne was asking, it would be an increase of about 20 percent in cost in fiscal year 2017, correct, for both?

Secretary STACKLEY. There would be two sources of cost increase. There is going to be cost increase to the ships that you are procuring. But also, recognizing that one of those shipyards is going to go out of business, and that is going to drive cost to all the ships under construction.

Mr. FORBES. Okay.

The gentlelady from Guam is recognized for 5 minutes.

Ms. BORDALLO. Thank you very much, Mr. Chairman.

And, gentlemen, thank you for your testimony here today and for your service.

I do applaud the work of our Navy in providing forward-deployed capabilities and continuous global force projection despite significant fiscal constraints. For example, I know I am not alone in this subcommittee in supporting robust U.S. freedom of navigation operations [FONOPs].

Admiral Mulloy, yesterday, Admiral Harris testified that Chinese intent to militarize the South Pacific region is very clear. Beyond continued FONOPs and given the restrictions we face, not being claimants in the territorial disputes, how can we continue to counter Chinese influence in the South and East China Seas? And

what resources, authorities, or funding does the Navy need to do so?

And, further, how can we leverage partnerships in the region as a multiplier effect to strengthen our posture and reduce costs?

Admiral MULLOY. Yes, ma'am. I would like to formally answer an area of the authorities that are outside of my area as the N8 for the Navy. But I would like to answer your question now and then propose a longer answer once I coordinate with other parts of Navy staff.

From my area, one of the biggest items I think we have to do is continue to maintain that forward presence. We just put our fourth submarine in Guam. We are moving the second submarine down there. We need to have the continued operations of the Pacific Fleet out there. We need to develop those high-end weapons and develop and test them out there, because when we test them we demonstrate to the world we have the capability to hold Russia, China at risk.

So it is building those forces, it is building the weapons, it is building the aircraft necessary to operate and continue to operate with our allies. We have no territorial aspersion there. We do FONOPs against all the countries over there because we don't agree with any of their particular claims. We want them all to solve it as group.

So, for all the attention we are getting through FONOPs against China, we drive past all of the islands claimed by all the countries out there and remain an ongoing program around the world of wherever there is pressure, because we view it as—part of our maritime history of this country is we provide freedom of the seas and ensure it for all countries.

And in terms of—so we have to build the ships, we have to build the aircraft, we have to build the weapons, and we have to demonstrate their use, and we have to work with our allies in that area, from smaller navies such as the Philippines, to working with our Malaysian allies, and primarily with our—our clear allies by treaty are also Japan and Korea.

So, as we work around that area, that is what we have to do, ma'am, is continue to be operating with presence, which requires support from Congress and our efforts to have the ships and weapons to go forward.

Ms. BORDALLO. Thank you, Admiral.

Now, for any of our witnesses, the CSIS [Center for Strategic and International Studies] recently released another independent assessment on the rebalance to the Asia-Pacific region. Among their recommendations, a few seem pertinent to this hearing. The report calls for a second carrier to be positioned in the Asia-Pacific region, ostensibly in Japan, as well as greater presence from small surface combatants. The report also calls for increased undersea capabilities in the Asia-Pacific region.

Now, I am concerned that this year's budget will challenge the Navy to address these recommendations from the report. What steps is the Navy taking to address the recommendations from the CSIS? And how, broadly speaking, does this year's Navy's budget support the rebalance strategy?

I guess, Admiral, that would be a question for you.

Admiral MULLOY. Yes, ma'am.

As I indicated, we are taking—the study has been evaluated. We are looking at other options.

First off, this forward-deployed aircraft carrier is an easy-to-recommend solution but tremendously expensive. Even if I was beyond a Budget Control Act maybe, we are talking an investment of, if we had permission in places, \$2 billion to \$5 billion just to be able to have the ability to have a carrier air wing and deploy things. So that is a significant change fundamentally going forward.

In terms of the other items, as I said, we are putting two extra DDGs in Japan that are the fully, you know, what we call Baseline 9 ballistic missile and cruise missile defense ships. We are putting four LCS in Singapore by 2018. We are continuing to put in extra—the LPD-17 class you heard about earlier, the first increment of that ship is actually going over to replace in the amphibious ready group in Japan.

So, across the board, all our forces, the submarine force we talked about is—the concern is the size. We put a fourth one in Guam so that we have that fantastic location to operate from. We get significant presence and the ability to rapidly be in the waters. You leave Guam, and within a couple of days you are in somebody else's waters. That is not lost on the Navy; it is not lost upon other people over there.

So, once again, forward basing is important to us. We just continue to do that, and we need to continue to build the *Virginia* class and also build the *Virginia* Payload Module. So I get from 12 to 40 strike weapons on every SSN [attack submarine]. So every SSN can do all those missions but bring a much larger firepower and punch on board. Those are all steps we have to do as we look forward to it.

It includes, you know, basing and building our P-8s, to build 109. Our first squadron will now have airplanes in Whidbey Island by the end of the year, and we will start being able to do detachments out of Hawaii. Those all are steps the Navy takes to lean forward in the Pacific, ma'am.

Ms. BORDALLO. Well, thank you very much, Admiral.

And I yield back.

Mr. FORBES. The chairman of the Readiness Subcommittee, Mr. Wittman, is recognized for 5 minutes.

Mr. WITTMAN. Thank you, Mr. Chairman.

Gentlemen, thank you so much for joining us, and thanks for your service to our Nation.

Secretary Stackley, I want to build on a comment that you made concerning LPD-28 and LX(R). I just returned from PACOM [U.S. Pacific Command], along with Ms. Bordallo. As we talked to PAC [Pacific] Fleet commanders, PACOM commanders, one thing was clear: Amphibious ships are in dire need in the Pacific, and I know as well as throughout other areas where our MEFs operate MEUs and our MAGTFs [Marine air-ground task forces].

What I want to get from you is this. We are looking at how do we keep things on track. And I think General Neller put it well. This is a program with LX(R). We are using the LPD-28 as a prototype. So we are moving things quicker, we are building a ship

less expensively, and we are delivering it faster. So all those things—very, very necessary.

In the Consolidated Appropriations Act of 2016, we provided \$250 million to move that program to the left, from 2020 to 2018. And I appreciate your testimony to say that you are doing long-lead-time material acquisition as well as advance design work to move that to 2019.

As we look at shipbuilding programs, I think it is critical, the spacing in programs and how those programs come into being and how we fund ships. You heard from Mr. Courtney, ORP [*Ohio* replacement program] is extraordinarily important. But we have to make sure, too, that we have the timing on these programs correctly. That is why I believe it is extraordinarily important to be able to move LX(R) to the left to begin in 2018. I think that is critical because that makes space to where ORP can come online and we don't have to worry about unbearable cost at any one time. So making space for that with what we know is coming with ORP I think is critical.

My question is this. I think it is necessary to move LX(R) to the left, to start in 2018. What can we do in the fiscal year 2017 and NDAA [National Defense Authorization Act] deliberations to make that happen, to truly make what was in the Consolidated Appropriations Act of 2016, and that is moving the start from 2020 to 2018? Give me your perspective on how we can make that happen. Because I think the industrial base capacity is there.

Secretary STACKLEY. Yes, sir.

The flow is, first, the decision to use the LPD hull form for the LX(R). That was the first key decision here, and that was just a little bit over a year ago. And so, with that decision, everything flows from that.

The second thing then came down to the LPD-28, using that as a bridge platform. And so we have the LPD-28 material on order, and that ship will be under construction here in about the 2017 timeframe.

Then the third piece is the design itself for the LX(R). We have what is called contract design going on right now, which is the level of detail that you need in order to put the actual ship under contract. But we have to go from contract design to detail design that the shipbuilders will need to do before they start construction.

So I can't look at you today and say—other than providing additional funding for more material and risk reduction, things of that nature, I can't say today that we will be able to accelerate another year. But what I can say is that we will work with industry and determine can we accelerate that design activity, which is the thing that next needs to be done, alongside the material procurement, in order to get the construction going a year earlier.

I know it is a top priority for industry because of the industrial base concerns. I think the decision to reuse the LPD-17 hull form greatly reduces the amount of design activity that is going to be required.

Now what we need to do is just carefully make sure that we are not rushing into construction before we have completed the design sufficient enough that we don't end up losing what we have today, which is good cost control, good performance by the shipyards.

Mr. WITTMAN. Seems like to me, though, that what we are learning on LPD-28, we have made much of that transition, so we should be able to capitalize on the time advantages that we are gaining from that. We are using the same hull form. The onboard ship systems and determining what we are going to have on the LX(R), to me, is that linchpoint. To me, you can still get to a mature design, do long-lead-time acquisition, as well as accelerate design. I think the industrial base has the capacity to do that.

So I am wondering if—you seem to be somewhat hesitant to say that the Navy can actually move it to the left. Is there some impediment to be able to do that? Because it seems like the capacity is in the right places, so what I am asking is what do we need to do to make that happen.

Secretary STACKLEY. Well, let me first—you mentioned the LPD-28. We are using that as a bridge ship not just for construction but for design, because it will be an interim between the LPD-17 hull form and the LX(R). And we did that for that exact reason.

Mr. WITTMAN. Uh-huh.

Secretary STACKLEY. But today our schedules don't arrive at a design that is going to be 2 years early, you know. So we go ahead and pull the material ahead so we can at least get a year out of there. But I can't look at you today and say we can accelerate that activity by a year.

Now, you know, a bridge, a mitigating strategy might be let's go ahead and bet that we can and put the mechanics in motion to support that and then have an exit strategy if, in fact, the design is not ready.

Mr. WITTMAN. Gotcha. Very good.

Thank you, Mr. Chairman. I yield back.

Mr. FORBES. The gentleman from Massachusetts, Mr. Moulton, is recognized for 5 minutes.

Mr. MOULTON. Thank you, Mr. Chairman.

Gentlemen, thank you very much for being here.

I think it is very important on this subcommittee that we talk about numbers of ships and capacity and whatnot, but sometimes I get a little frustrated when we seem to focus exclusively on that.

My experience in the Marines, you know, if I had a platoon going up against a bunch of Taliban, I wouldn't much care whether there were 40 or 50. I would care a lot about whether they had IEDs [improvised explosive devices], whether or not they had just rifles or automatic weapons, whether they had active cellphone networks so they could provide intelligence on what we were doing or whether they had no idea where we were maneuvering.

So I think it is hard to talk about the number of ships we need when you don't talk about the relative capabilities of those ships versus our adversaries. I know that is something that you look at in your planning, but I think it is something we also need to talk about here in the committee.

I am new to Congress, but I understand we have statutory requirements for the number of aircraft carriers that we have. We don't seem to have statutory requirements for spending on research and development [R&D] or spending on intelligence or cyber or meeting the hybrid warfare capabilities of Russia. Is that correct?

Secretary STACKLEY. That is correct.

Mr. MOULTON. You know, if we had canceled the Manhattan Project during World War II so that we could build a few more aircraft carriers, I don't think it would have been a good decision.

Now, this Congress recently passed a science bill, really just a thinly veiled attack on climate science, but it prevented funding for NSF [National Science Foundation] projects that are not in the, quote, "national interest." Now, this sounds great. We want to fund things that are in the national interest. But if that bill had been passed a long time ago, I don't think that Einstein would have been able to get his funding, back at Princeton, for the basic research that led to our strategic nuclear capability.

So my question really gets to the heart of this debate about capability versus capacity. Do you think that our capability lead over Russia and China is growing or shrinking?

Secretary STACKLEY. I would describe it as we have two curves. Since World War II, our curve in terms of capability has been the steepest curve on the chart. However, in the last, say, 5 years, what we are seeing is China and Russia, their curve, frankly, looks like it is going to cross ours, and in certain areas it has crossed ours.

Mr. MOULTON. So how many times has China attacked us here at home with aircraft carriers or cruisers in the last 20 years? I think we know the answer. How many times has China attacked us here at home with cyberattacks?

Secretary STACKLEY. It is ongoing.

Mr. MOULTON. It is ongoing.

So my question is this: What can we do on this committee to help you better balance investing in capacity versus investing in capability?

If it is true that these lines are about to cross and this historic lead that we have enjoyed for half a century over our biggest allies—adversaries, rather, is going to go away. So what can we do to free you from the parochial, political concerns of Congress to make sure that you can make the smartest decisions about where these investments go, not just in capacity but in the capabilities of our forces?

Secretary STACKLEY. Sir, I would tell you, in building our budget, there is intense effort to try to get the right balance in terms of capacity and capability. There truly is. And when we deliver the budget to Congress, what we owe you is an explanation of how we believe this strikes the right balance so that, in fact, we are not shorting capability or readiness in exchange for capacity.

Mr. MOULTON. It is hard to believe that if your statement about our lines crossing, about China's technological acceleration approaching or exceeding ours is indeed true. It doesn't seem that we are going to be able to protect the United States of America if Russia and China are catching up as quickly as they are.

Secretary STACKLEY. Well, yes, sir, let me describe. I said our lines are crossing in certain areas. And I think these areas folks are well familiar with. We can talk about the DF-21D [Chinese anti-ship ballistic missile], which, frankly, caught us by surprise, and other areas where China and Russia have invested. They are targeting specific what they consider to be vulnerabilities in terms

of the United States Navy or the United States military. And we have either fallen behind or are playing catchup there.

Today, in our budget, we look across our weapons systems in terms of what we are developing, investing in for future capabilities, as well as the capacity that we will need. Because we do not believe that it is a choice, that it is one or the other. We believe we need both. And we are trying to deliver both within the constraints of the budget that we have.

Admiral MULLOY. Sir, what I would say is, in terms of the vectors and crossing, there are some areas where some may have crossed and we come back. The ballistic missile defense, we have certainly made a lot of efforts that are highly classified to be able to work on that.

One thing, what can Congress do? Lift the Budget Control Act, without a doubt. I mean, I go back again to the PB12 [President's budget for fiscal year 2012] levels, what we had, what a very much different world we would be in right now.

When you come down to it, how much R&D? There is no floor to R&D or no limit to it. However, as we develop our science and technology budget, that is one area that is protected, that it must be the same as inflation or greater. So we have always had a 2 percent growth. Independent of all my other projects going down, the baseline what we call budget activity 1, 2, 3 has always gone up to match inflation. We have never lost an erosion on that. That is coordinated through OMB and all the services.

So we maintain a minimum. That is certainly not where we want to have it. But we have laid out for our Chief of Naval Operations the vectors of the Russian and Chinese submarine forces, missile systems, other items. Where can we bend our curve? And that is where we are starting to make some of these investments: to buy the SM-6 missile and the test the Secretary of Defense just announced last week, be able to make a weapon that goes at tremendous speed and range to launch off a large number of platforms suddenly puts a large number of Chinese and Russian ships at greater risk from us, and the more modes we can create for that weapon.

So to unleash the innovation of the American engineer and the American worker is where we really need to be. That is what restores some of that. But it comes down to being the resources, so Mr. Stackley is right. We are attempting to balance as we can. We have fully funded, have not cut any of the cyber teams. The Navy has to provide 40 cyber teams, sir, to the Cyber commander and to the President. Those are all fully funded in this budget. We are developing all those tools. We wish we had more money. We are looking at our platforms that we have to.

So we do try to find balance. But what can Congress do is, either your tremendous level of effort in 2016 to lift what was essentially a BBA cut to restore us to what we asked for, despite what could have been less, was an effort. But we need that across the board to actually lift that act through 2021. Otherwise, we are back every year again. We need a BBA for 2018 and 2019—

Mr. FORBES. The gentleman's time has expired.

And since he thinks it is parochial, we will try to get some people—maybe you weren't in the briefings when they said that the

number-one thing we could do to stop a conflict from going to 0–3 was a carrier strike group. That is why they think it is so important. And the number one they thought we could do to actually win that conflict was having a carrier strike group. So let's try to get those guys back over here to brief us again.

But, with that, the gentlewoman from Missouri, Mrs. Hartzler, is recognized for 5 minutes.

Mr. Conaway, the chairman of Agriculture, is recognized for 5 minutes.

Mr. CONAWAY. I have kind of an in-the-weeds kind of question, Secretary Stackley.

In the 2016 NDAA, we had put a restriction in place that prevented the Navy from buying bulk biofuels—it wasn't competitive with conventional fuel prices—in the attempt to try to bring some rationality to budget constraint in the area rather than spending a lot of extra money on fuel that you can buy conventionally for less.

Did you guys work with the USDA [U.S. Department of Agriculture] to have the USDA buy down the feedstock costs so that you could turn around and look like the Navy is buying the fuel at a much reduced price to get around the NDAA?

Secretary STACKLEY. Sir, I have not heard anything to that.

Mr. CONAWAY. Okay. Would you take that one for the record?

Secretary STACKLEY. Yes, sir.

[The information referred to can be found in the Appendix on page 87.]

Mr. CONAWAY. Secretary Mabus and I have had a long-running gentleman's disagreement on algae-based jet fuel in particular. And I am concerned that you guys may have tried to get around the NDAA, and I would be very disappointed if you did. I am hopeful you will get back to us and say, no, that didn't happen, we are fully compliant with the NDAA, and we have not circumvented the spirit of that restriction.

Secretary STACKLEY. Sir, I am going to make a statement exactly to that effect, because we would not do that. Now, I will go back and confirm it for you, but there is no way that the Department of Navy would have circumvented the NDAA or created some mechanics with the Department of Agriculture to undercut the——

Mr. CONAWAY. Well, the mechanics are already in place because that whole effort was a joint effort between Department of Defense and Department of Agriculture to build that refinery and invest in it. And so I am concerned that there would be some games being played there. So if you will check that, I would appreciate it.

And I yield back.

Mr. FORBES. The gentlelady from Florida, Ms. Graham, is recognized for 5 minutes.

Ms. GRAHAM. Thank you, Mr. Chairman.

Thank you. Thank you all for being here.

I represent NSA [Naval Support Activity] Panama City, and a lot of the countermeasures for mines are being developed there. I am very proud to represent that part of Florida.

I understand that there is a transition going on with our countermeasures for mines from older processes to the new LCS, off of the LCS ships. What is the status of that?

And I have a followup question.

Secretary STACKLEY. Yes, ma'am.

There absolutely is a change to the way we are conducting mine warfare. First and foremost, we want to get the ships out of the minefield, in terms of searching for, identifying, and neutralizing the mines. And that is how the LCS concept is structured.

So, rather than put the ship in the minefield, what the LCS carries is what is referred to as mine countermeasures mission package, which is a series of systems that first locate a mine or a mine-like object, then verify that it is a mine, and then go out and neutralize the mine.

It is one of the toughest things that we do, because if you can imagine a large expanse of the ocean, that you are just looking for anything that might be a mine-like object, and then you have to verify that it is before you go out and neutralize it, without you entering the minefield.

So we do that through use of unmanned vehicles. Today, what is referred to as the mine countermeasures missions package is going through testing. We spent virtually all of last year off of Panama City testing this package. And, frankly, we met our requirements, where the requirement is how long will it take you to clear a minefield of a certain area as well as a channel of a certain length of mine-like objects.

We met our requirement, but along the way of meeting the requirement we also determined that the principal vehicle that we use for towing a sonar that spots the mines, that vehicle does not meet our requirements in terms of level of reliability. So we have put procurement of that vehicle on hold while we go out and look at other alternatives for the vehicle.

But all the other elements of the mission package are working well. The sonar works well. We have what is referred to as an airborne laser mine detection system, which is virtually a laser detector that is carried on a helicopter. That is working well. The neutralization system is working well.

But what is referred to as the Remote Multi-Mission Vehicle—it is unmanned—its reliability is unsatisfactory. So we are going to go ahead and make some modifications to the 10 of those that we have and have a mission package that is available for deployment.

We are already deploying elements of the mine counter mission package today in theater as they prove effective, and then we are going to go off and look for a longer-term alternative solution for the vehicle that will tow the sonar.

Ms. GRAHAM. So the plan that had been put in place to phase out the old process has been modified until we have developed a new process for the vehicle, the unmanned vehicle, that will be using the countermeasures package, if I am—

Secretary STACKLEY. Yes, ma'am. We expect we will have these mine countermeasure mission packages available for deployment on LCS by 2019. This will be with the current vehicle.

We want to get to an alternative. We think it is going to take an extra approximately 2 years to get to this alternative and complete its initial operational testing for its deployment.

Ms. GRAHAM. Well, terrific. You answered all my questions. Thank you. I really appreciate it.

And come back down to Panama City as frequently as you would like. It is wonderful down there.

Thanks. Appreciate it.

I yield back, Mr. Chairman.

Mr. FORBES. Mr. Knight is recognized for 5 minutes.

Mr. KNIGHT. Thank you, Mr. Chair.

I have just a couple questions. I will start off with General Walsh.

And let's talk a little bit about the transition that we are going through from Hornets to JSF [Joint Strike Fighters]. Where are we? How is it going? We went out to Quantico a couple days ago; we talked to some Marine aviators and talked to them about the Joint Strike Fighter. Can you give us an idea?

General WALSH. I think, yeah, the program is going real well. I mean, the Marine Corps, we are on the front edge of the rest of the Department of Defense on this. And so VMFA-121 is our first IOC [initial operational capability] squadron that stood up this last year and has gone out to sea. So we have our first operational squadron.

They are going to be able to deploy here next year. They deploy in 2017 to Iwakuni, Japan, and then be forward deployed on the USS *Wasp*. So they will be really the first deployed fifth-generation capability in the Department of Defense that we have had. So, very excited about that.

The program, if you get a chance to talk to any of the aircrew that were there or maintainers, they are very excited about putting the airplane through a lot of tactics, training. And it is doing phenomenally well. It is exactly what we thought it would be doing.

Obviously, we have delays between—we made a decision to go from Prowlers, Harriers, and Hornets to get to fifth generation in the F-35. I made that decision a long time ago. In the interim, we were on the front edge of this as the Marine Corps, and there have been some delays in the program, as there is in most programs, where you work through this. But we are really confident on where we are at.

Now, the legacy side, back to the F-18s, is we are struggling with that piece because the airplanes are getting older, and, if you have seen the readiness levels, I think about half the fleet right now is in a depot awaiting depot-level maintenance. Thanks to the committee and Congress is helping us a lot with those readiness dollars to get the readiness up, to get that plug in there while we transition to the F-35.

But I think we are very confident that we are on the right path by going to the F-35 and that fifth-generation capability—not because of its stealth and precision capabilities. I think those are given. I think what people are going to really start to see in this aircraft—and we are seeing it in our exercises and operations that we have right now—is for the Marine air-ground task force, the ability to sense—the airplane is just a sensor. And it is able to take that information, sense it, bring it in, and now the ability to start sharing that around the battle force with the United States Navy, also the joint force, and certainly our marines on the ground.

That is the area that we have to continue to spiral up and get better at, not only on the aircraft to be able to share that informa-

tion down to marines on the ground, but also to our ships. Certainly on the amphib ship side, we have not had that type of capability in our Harriers, to be able to downlink, share that type of information off the aircraft like we have in the past.

So I think the F-35 is going to bring tremendous capability. Now we have to leverage that capability throughout the battle force, both on the ground and with the ships.

Mr. KNIGHT. Super. Super. Thank you. Thank you, General.

Admiral—and I know the Chair is adamant about this, and I know most of Congress is. But if the air wing was disbanded, what would happen to that air wing? Would we still have that air wing? Would we keep that as a ground force or as a relief force? Or what would we do with that air wing?

Admiral MULLOY. Well, sir, if we retained the air wing, it would stay into the cycle. We would end up with gaps, because air wings don't deploy to the ground, so we would not go to Japan or Guam with an air wing—

Mr. KNIGHT. Right.

Admiral MULLOY [continuing]. Because it is contingent upon fighting on the aircraft carrier as a unified force.

So what happens with the air wing is we are going to what we call deactivate. The airplanes will move to other squadrons. The pilots and mechanics will go to other squadrons. The colors and the flags of the squadron will be basically put in a museum on hold in case we are going to go back and grow the Navy in the future. As we do another future force assessment, we would be able to reactivate the squadron.

But not a single airplane will be taken out, and not a pilot or mechanic will leave the Navy. Where we will actually get the savings from is, at this point in time, we don't have to bring as many people in to relieve them by the end of the FYDP.

Mr. KNIGHT. Right.

Admiral MULLOY. So that is the cycle where the savings come from.

And there is a little bit in terms of operations. When I give—let's say he is the commander of the next squadron; I give him my airplanes. He needs a little bit of O&M [operation and maintenance] dollars to keep them running but not the same I had to do to keep the whole squadron running.

So there is an operations savings and a manpower savings. But, once again, that is merely more, to my mind, a cost avoidance. But the air wing itself would not have a place to go if we don't have an aircraft carrier for it, other than it flies at its home base.

Mr. KNIGHT. Thank you, Admiral.

I yield back, Mr. Chair.

Mr. FORBES. Mr. Langevin is recognized for 5 minutes.

Mr. LANGEVIN. Thank you, Mr. Chairman.

And, gentlemen, I want to thank you for your testimony today and your service to the country and for your willingness to speak with us today about the Navy's budget for fiscal year 2015.

I hadn't planned to ask this question, but to the chairman's question and to the last line of questioning on the air wing that would be retired, given the national security challenges that we face,

aren't you taking a capacity out of the system in the event that we have to surge?

I mean, doesn't that allow you to, for example, utilize that 10th air wing, even if they are not deployed on a carrier, that if we need them, that allows the carriers to shift down there, to allow more sorties to be flown, et cetera. And if you retire that 10th air wing, aren't you taking capacity out so it doesn't therefore have that in reserve, you know, should conflict break out?

Admiral MULLOY. Well, sir, it all comes back to the ergonomics of an air wing in the Navy design, unlike an Air Force AEF, you would have, I guess, an absolute level, you would be missing a few squadrons of airplanes. But you don't fight a group like that from a land base. That is the difference between us and the Air Force, is they come together as a group to be on the carrier to be synchronized as a combat element.

And so we don't really view this one as that, quote, "hard choice." It really lays out, given that we need to get that air wing back if we build the 12th aircraft carrier, then we need to go back to the 10th air wing. Our cycle is we need to be with a modern nuclear aircraft fleet, given the way these operate and design, the right number of air wings is two less, not one less, because we are no longer in that—the carriers are designed to last 50 years, but we need to do that long-term maintenance on them. That freed up that point of having that air wing anymore.

So it is not a whole air wing right now, in fact, because it has been shrunk over time. It was a couple of—it is really four squadrons and an air wing commander. It was never a full air wing. And, at this point in time, we don't think it is an artifact that we really need to keep. We think it is a good business decision to put those airplanes in the operational squadrons and line ourselves up to being two air wings less the number of nuclear aircraft carriers we have.

Mr. LANGEVIN. Okay. Thank you, Admiral.

I want to get to other questions I have. So we heard yesterday morning from Admiral Harris before the full committee that PACOM does not have a sufficient number of submarines to conduct the scale of operations that they would like in the Indo-Asia-Pacific region. And this is just one example highlighting our need for sophisticated undersea capabilities.

How is the Navy leveraging cost-saving measures and supporting growth in key investment areas to achieve the desired force structure?

Secretary STACKLEY. Well, let me start specifically with submarines. We have spent a fair bit of time here discussing the submarine dilemma that we have in terms of the number of submarines that combatant commanders demand and then the challenges in terms of, when *Ohio* replacement comes, can we or can we not sustain a two-*Virginia*-boat-per-year capacity. So I don't want to replay that tape.

But the other element that Admiral Mulloy referred to earlier is adding the *Virginia* Payload Modules with the Block V submarines, basically add another mission for the *Virginia* submarines. It takes up their payload capacity from 12 up to 40 Tomahawks for strike capability. So one of the demand signals for *Virginia* under certain

scenarios—or for a submarine force under certain scenarios is that strike mission. And so we are increasing capacity per boat in that regard.

So we are struggling with, can we sustain two *Virginias* per year to mitigate the shortfall; growing capability in terms of missile capacity in this particular case; as well as increasing the capacity of our weapons systems, the acoustic superior program that we have that we are introducing into Block V to make that force as capable and effective as possible. So it is both a capacity issue as well as grow-the-capability issue.

Overall, though, we have described the 308-ship force, and I will tell you that, by way of driving stability into our shipbuilding program and designing for affordability where we can, I think we have done a great job in terms of delivering on, frankly, the promise of getting to that 308-ship Navy. What we have to do is sustain that focus and that effort across all of our programs.

Mr. LANGEVIN. Thank you, Secretary.

I have long been an advocate of directed energy weapon systems, and I am glad that the knowledge is beginning to transition out of the lab into operational units, such as the 30-kilowatt laser on the USS *Ponce*.

Moving forward, how can we best couple our naval platforms with our strategic weapon systems when it comes to areas such as directed energy or cyber?

Mr. FORBES. And I am going to ask you if you can take that for the record and submit it, because we only have a few minutes before our votes, and Mr. Hunter is recognized for 5 minutes because the gentleman's time has expired.

[The information referred to can be found in the Appendix on page 87.]

Mr. HUNTER. Thank you, Mr. Chairman. Yeah, and they close those votes down quick now. We have become prompt.

First question, you brought this up in the beginning about the Mediterranean. Is it a strategic decision to not have amphibians in the Med right now?

Admiral MULLOY. Sir, it comes back to what is called global force management [GFM]. And so there are amphibians in the Mediterranean when they are transiting but also when need to be repositioned based upon world activities. It does come down to do you have the number of forces you have, and everyone wants them. So right now that comes down to be, yes, sir, a strategic decision at an actual level to where we put our forces that we have forward.

Mr. HUNTER. Is there a threshold in Europe and Northern Africa on what would have to happen to have a permanent rotation in the Med again?

Admiral MULLOY. I don't know if what I would call as a threshold. I mean, it comes back, again, the forces we have go where we need to be. We have been clearly using our amphibians to operate, if necessary, off Libya on a number of occasions, and other ships, whether it is on a national mission, grabbing the terrorists in Libya, or other events that happened over there.

But, no, I don't know of any one threshold to say I have to be stationed there. That is really—I imagine it came up with General Breedlove talking to your committee earlier about how does he

view the world in Europe, and then also the AFRICOM commander when he comes.

Mr. HUNTER. General, do you have any comments on that?

General WALSH. Congressman, I think, you know, as you look at that situation, it is in that global force management. So as it goes into that GFM system, you know, we have an ARG [amphibious ready group]—

Mr. HUNTER. We have been hearing that a whole bunch. I am sure it is a great analytical program that determines where a ship should be, right? That is what it is?

General WALSH. So I guess what I could look at right now is, because of the number of amphib ships we have right now, they get deployed as an ARG. As you are aware, an ARG gets deployed to CENTCOM. CENTCOM right now gets the highest vote; they get the ships. As Admiral Mulloy said, there are times in there, based on the situation, they will chop over one of those ships—could be more—as the situation directs.

What we are looking at right now, though, is because of that, the situation in the Med, is whether we should be doing that more on a full-scale, permanent basis. You know, as before we had always kept the ARG together, now we are doing split and disaggregated operations where they deploy together and now we split them up. We are now looking at should we even look inside the GFM process on whether we should split them before they even deploy, because we don't have the number of ships to put in the Med.

Mr. HUNTER. Okay. Thank you.

Second question, I chair the Coast Guard Subcommittee, so we do all the Coast Guard acquisition—OPCs [offshore patrol cutters], FRCs [fast response cutters], NSCs [national security cutters]. Secretary Stackley, we are trying to give the Coast Guard the same ability that the Navy has—advance procurement, block buys, multiyear procurement, and lead-time materials, just like the Navy does. Robert Work testified on this. GAO [Government Accountability Office] just did some stuff where they said they could save a lot of money, like, a billion dollars over the life of any of their programs.

Do you see any complications with giving the Coast Guard the same—I mean, you are all building ships, and, in the end, it is you are going to build the ships. So that is my question. Do you see any problems with that?

Secretary STACKLEY. Absolutely not. I think that is a great tool that we have been able to use to generate savings. And the savings we use go back in the shipbuilding program so we can get more of what we need. The key is to have stability in terms of requirements and design before you make those long-term commitments in terms of block buys.

Mr. HUNTER. Inherently, what is OMB's—if OMB were to have an issue with doing multiyear procurement and block buys, what would it be, besides they get locked in?

Secretary STACKLEY. That is it. Yes, sir.

Well, there are two things. One, have stability so you know that—if you change, if you make significant changes in the middle of a block buy or multiyear, then it is going to be destructive and it is going to eat up the savings you are going after. From a comp-

troller perspective, making that long-term commitment in the budget takes away flexibility. So if there are other requirements that emerge, you don't have as much flexibility in the budget to address the new requirements.

Mr. HUNTER. Roger.

Okay, and my last question is about a thing called ATRT, automatic test and retest. Mr. Moulton talked about this a little bit, but there is a lot of money spent on integration and testing. Aegis is an example. I have a quote from Secretary Kendall, who is calling the ATRT program "unprecedented success for SBIR technology"; record ATRTs, savings of cost and time to the Navy. I have a thing here where it says an Aegis test, 80 hours, nine analysts to do it manual; ATRT does it in 7 hours with one analyst.

So all of these great, glowing things about ATRT, and I am looking at the President's budget. ATRT had, let me see, \$7 million in 2015; \$23 million in 2016; now, zero for 2017.

And the name has changed to ATA. Usually, that portends bad things for a program, like it is going to be dumped off to a large corporation-type contractor that is not an SBIR [Small Business Innovation Research] firm and not the inventor of this.

Do you have any comments on this?

Secretary STACKLEY. Well, first, I am a strong fan of the ATRT. I am the one who brought it into the Navy programs.

Mr. HUNTER. Right.

Secretary STACKLEY. And so it is always—what we want is ATRT not to be something separate and different. We want all of our programs to be incorporating ATRT just like they do open systems.

Mr. HUNTER. Sure.

Secretary STACKLEY. You will see a budget line item for open systems. We make that a part of the standard by which we design—

Mr. HUNTER. But it is zero, though. Why would it be zeroed out, then, for this budget, for the 2017 budget?

Secretary STACKLEY. Well, we actually have a continuation of the ATRT efforts. So I will find the budget line item where we are doing it. I literally just met with the organization about 3 months ago going over this before we submitted the budget.

Mr. HUNTER. Okay.

Secretary STACKLEY. What we have done is we have taxed programs to fund the effort, as opposed to a separate budget line item. We want the programs vested in the effort. We want them to be directly involved in identifying where the efforts go to provide the biggest—

Mr. HUNTER. Mandated to be in the effort, too, I would say, right? For different programs.

Secretary STACKLEY. We directed it. Yes, sir.

Mr. HUNTER. Okay. Thank you very much.

Thank you, Mr. Chairman.

Mr. FORBES. Thank you.

Gentlemen, I told you all you would have time to put something on the record. Unfortunately, we only have a few minutes left. So, rather than make you wait an hour and come back, if it is okay, I am going to let you put any comments that you want in the record that might elaborate or clarify any statement you have made, if that is agreeable with each of you.

And, with that, let me just thank you so much for your being here and for your service to our country.

And, with that, we are adjourned.

[Whereupon, at 3:28 p.m., the subcommittee was adjourned.]

A P P E N D I X

FEBRUARY 25, 2016

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

FEBRUARY 25, 2016

**Opening Remarks of the Honorable J. Randy Forbes
for the
Seapower and Projection Forces Hearing on
Department of the Navy Fiscal Year 2017 Budget Request for Seapower and
Projection Forces
February 25, 2016**

I want to welcome all of our members and the distinguished panel of Navy and Marine Corps leaders for today's hearing.

We have testifying before us on the fiscal year 2017 budget request:

The Honorable Sean Stackley, Assistant Secretary of the Navy for Research, Development and Acquisition;

Vice Admiral Joe Mulloy, Deputy Chief of Naval Operations for Integration of Capabilities and Resources; and

Lieutenant General Robert Walsh, Deputy Commandant for Combat Development and Integration.

Thank you all for testifying today and we look forward to your thoughts and insights on the FY 2017 budget.

As members of this subcommittee and our witnesses are well aware, shipbuilding takes time and patience. It requires a steady hand and constant pressure to reap the benefits. There are some who believe that shipbuilding is a spigot that can be turned on and off as needed. My friends, they are dead wrong.

Yesterday we heard from Admiral Harris that the Navy is only able to meet 62% of his demand for submarines in the Pacific—and the situation is expected to grow worse. That is a consequence of decisions that were made in the 1990s, when we turned off the spigot on attack submarines and other defense investments under the assumption that we could turn it back on when and if we ever needed to.

Twenty years later, Admiral Harris and the men and women under his command are suffering the consequences of those decisions. Twenty years from now, their sons and daughters will be dealing with the consequences of the decisions we make today, and the investments that we do or do not make in the Navy and Marine Corps of the future. Looking at the budget for the Navy and Marine Corps, I am concerned that we are being forced make choices between capacity and capability when we clearly need more of both. While I am generally pleased with the outyears and how the overall ship construction

account grows to accommodate Ohio Replacement, I continue to be concerned about the administration's request to place half our cruisers into a long term layup status, the Navy's plans for unmanned carrier aircraft, and renewed efforts to inactivate one of our carrier air wings.

Earlier this week, I was reminded to measure administration's initiatives against a simple benchmark: whether a new idea or proposal increases the lethality, readiness, and effectiveness of our military. When I weigh the administration's plans for cruisers, CBARS, and the carrier air wing in this balance I find them wanting.

The Department of the Navy and the witnesses before us today are faced with daunting fiscal challenges and constraints. I believe they are managing this situation as best they can. But we must do more than manage the gradual decline our fleet. We need to bend the curve lines and get our Navy and Marine Corps onto a new and better trajectory. We need to grow our surface fleet, not put it into mothballs. We need to address the strike fighter shortfall and start building the carrier air wings we need for the future. We need more and better munitions. And we need to start building more submarines so that two decades from now, Admiral Harris' successors don't have a submarine fleet that is half the size of China's.

It will take many years to do all this, but the decisions we make today will set the trajectory we proceed along, and I remain fully committed to making sure our nation maintains its maritime superiority and command of the seas.

**Opening Remarks for Congressman Joe Courtney
Ranking Member
Seapower and Projection Forces Subcommittee
Hearing on the Department of the Navy Fiscal Year 2017 Budget Request for
Seapower and Projection Forces
February 25, 2016**

Thank you, Mr. Chairman, for holding this hearing on the fiscal year 2017 budget request for the Navy and Marine Corps. As always, I look forward to the testimony of our distinguished panel of witnesses about the issues we will consider in this year's budget for programs in our jurisdiction.

This hearing and this budget comes at a critical time for our Navy and Marine Corps. As recent events around the world clearly demonstrate, the presence and capabilities of our forces on, below and above the seas are in higher demand than at any other time in recent history. Yet, as this subcommittee knows all too well, these forces are under significant pressure in meeting growing operational needs and keeping pace with developments around the world in the face of limited resources. I believe that we need to ensure that we make the right investments in the capabilities of our seapower forces while also ensuring that they have the capacity to utilize them. In my view, the 2017 budget request makes important strides towards this goal – but there are areas where I look forward to working on a bipartisan basis to make further progress.

With regards to capabilities, I am pleased that the budget reflects the feedback I have heard from our front line leaders about the need to provide them with tools with greater reach and punch. Among other things, the budget requests support for upgrading the anti-surface capabilities of the SM-6 and the Tomahawk, continuing investments in the AMDR radar for our destroyers and game-changing platforms like the advanced E-2D Hawkeye. I also appreciate the Navy's recognition of the bipartisan concern this committee has shown about the need for the Virginia Payload Module, and the expansion in the number of submarines planned to receive this important upgrade to meet future strike and payload delivery needs.

This budget also proposes a way forward on integrating unmanned capability in our carrier air wing. I have long felt that it was important to begin incorporating this capability to our fleet, while ensuring that we have a path forward to expanding the range of missions it can provide in the future. Initiating this process with a tanking mission could expand the reach of the air wing while also relieving our strike fighters of this mission. I believe it is also important that this platform be able to fill the carrier's longstanding gap in ISR while also providing some limited strike capabilities. Given the close look our subcommittee had taken at this program over the last two years, I look forward to examining the proposal in further detail to see how it lines up with current and future requirements.

Where I have some concerns, however, is in the capacity side of the request. Notably, this budget proposes a shipbuilding profile that is smaller in overall ship count than the 2016 budget, largely due to the truncation of the Littoral Combat Ship program. While I appreciate the budget pressures that the Navy is facing, I remain concerned that removing nearly a quarter of the LCS/Frigates prior to reaching the Navy's stated requirement of 52 small surface combatants injects unacceptable warfighting risk. Further, I am deeply concerned that this change could have detrimental effects to the shipbuilding industrial base, which needs to be part of this discussion.

Additionally, this subcommittee is once again being asked to consider a modernization plan for the cruiser fleet. After years of significant debate on this topic, the 2015 and 2016 National Defense Authorization Acts supported a thoughtful compromise which enacted the '2-4-6' plan that the Navy has already begun to implement. While Navy leaders have suggested that their new plan to put all cruisers into indefinite modernization in 2017 will save money and meet Congressional concerns, I believe that this proposal will see strong bipartisan scrutiny in the weeks ahead. Instead of reversing course on 2-4-6, I would be interested in working with the Department of Defense and Navy to find ways to fully maximize all the tools and funding avenues available to modernize these ships so they can continue to perform the important roles they play around the world.

Although not a 2017 issue directly, I believe it is also appropriate for Congress and the Navy to look ahead to ensuring that we sustain the two a year build rate for the Virginia Class Submarine. As the 2017 budget shows, the Navy's shipbuilding plans to drop to one new attack submarine in 2021, the same year that the first Ohio Replacement Submarine is started, and several other years of reduced procurement through the Ohio replacement construction period. As Admiral Harris of Pacific Command and General Breedlove of European Command testified in the full committee this week, they and other combatant commanders are not getting the submarine resources they need *today* with a fleet of 52 attack submarines – and that problem will only get worse as the fleet drops to 41 by 2029. Just as we did in providing the authorization needed to achieve a 10 submarine block contract in 2014 for the price of nine, I believe that Congress and the Navy have the opportunity to further sustain the production rate as we look ahead to the next block.

On the topic of the Ohio Replacement Program, this budget is particularly significant because it marks the first time that design and construction funds for this national priority appear in the shipbuilding account -- making the debate over the funding strategy for this essential program more urgent than ever before. The question is not about whether the funds will be available to build the ORP – leaders from the President on down the chain of command have been clear that this submarine will be built – the challenge is doing so while also building the robust and diverse fleet of submarines, destroyers, amphibians, carriers and other ships we will need in the future.

Last year saw much debate over, and solid bipartisan support for, the National Sea-Based Deterrence Fund. As we heard from experts from the Congressional Research Service and the Congressional Budget Office late last year, the fund, and the expanded authorities this panel provided to it, could generate savings on the order of tens of billions of dollars and reduce pressure on the shipbuilding account. I know Chairman Forbes and I are committed to further advancing this issue in the year ahead, and I am eager to hear from the Navy about what additional authorities could provide further cost savings and efficiencies, as well as approaches to utilizing the fund moving forward. I was hoping that the NSBDF report to Congress that was required in last year's NDAA would have arrived by now, and am disappointed that we do not have this input to guide our discussion today. I look forward to seeing the details when it is finally submitted, and hope that our witnesses can share their insight on this topic.

Finally, over the last year Congress has made meaningful and bipartisan progress in limiting the impact of sequestration and the Budget Control Act. While mitigating the across the board cuts in 2016 and 2017 was important, the fact remains that our Navy, like the military at large, remains handcuffed by sequestration in 2018 and beyond. Many of the choices made in the budget that we will question today were made in large part due to the downward pressure that our military faces in the future. Even since passage of the Bipartisan Budget Act last fall, several world events have further demonstrated just how important it is for all of us on this committee and our colleagues on both sides of the aisle in Congress, to come together to make the compromises needed to protect our security and support the needs of our nation.

As we have in the past, our subcommittee will undertake a thorough and bipartisan review of the budget and, where needed, make adjustments in the best interest of our nation's security on, below and above the seas. The discussion today will help start this process, and I look forward to hearing from our witnesses and our colleagues on the subcommittee.

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

STATEMENT

OF

THE HONORABLE SEAN J. STACKLEY
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(RESEARCH, DEVELOPMENT AND ACQUISITION)

AND

VICE ADMIRAL JOSEPH P. MULLOY
DEPUTY CHIEF OF NAVAL OPERATIONS FOR INTEGRATION OF CAPABILITIES AND
RESOURCES

AND

LIEUTENANT GENERAL ROBERT S. WALSH
DEPUTY COMMANDANT
COMBAT DEVELOPMENT AND INTEGRATION &
COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND

BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

DEPARTMENT OF THE NAVY SEAPOWER AND PROJECTION FORCES
CAPABILITIES

FEBRUARY 25, 2016

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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Chairman Forbes, Ranking Member Courtney, and distinguished members of the subcommittee, thank you for the opportunity to appear before you today to address the Department of Navy's seapower and projection forces capabilities.

The Fiscal Year (FY) 2017 President's Budget submission is governed by the 2014 Quadrennial Defense Review (QDR), which implements the 2012 Defense Strategic Guidance (DSG) and continues our efforts to ensure our ability to protect the homeland, build security globally, project power and win decisively. As described in the Chief of Naval Operations' *A Design for Maintaining Maritime Superiority* and the Commandant of the U.S. Marine Corps' *Advance to Contact*, today's strategic environment is dramatically more globalized with accelerating change. Global connections continue to multiply, fueled by rapid advances and proliferation in technology, particularly information technology. Our competitors are pursuing advanced weapon systems at levels and a pace of development that we have not seen since the mid-1980s. It is imperative that we fund a force that can fight and win against any of our five major challenges (Russia, China, Iran, North Korea and Global Counter-Terrorism), investing in advanced capabilities that increase our lethality, for both the current and future force. This budget addresses that imperative by making investments to sustain our ability to fight with decisive capability over the full range of operations – at sea, from the sea, and across all domains.

Though budget issues have challenged the Department, our Sailors and Marines deployed around the world continue to perform the mission and operate forward, being where it matters when it matters. During a ten month deployment ending in June 2015, the *Carl Vinson* Strike Group and Carrier Strike Group (CSG) ONE conducted 12,300 sorties, including 2,383 combat missions against Islamic State of Iraq and Syria (ISIS). The USS *Theodore Roosevelt* (CVN 71) with CSG TWELVE returned from deployment in November 2015 after conducting over 1,800 combat sorties in Iraq and Syria against ISIS targets. During deployment, CVN 71 quickly relocated from the Northern Arabian Gulf to the coast of Yemen to respond to the Houthi insurgency, keep shipping lanes in the region safe and open, and intercept weapons shipments meant for the Houthi rebels. Day and night carrier-based airstrikes continue from the USS *Harry S. Truman* (CVN 75) which arrived in the Persian Gulf in December 2015 to support Operation Inherent Resolve.

The US 7th Fleet along with allies and partner nations combined for over 110 exercises throughout 2015 to train, build partner capability and relationships, and exchange information.

The largest exercise, Talisman Sabre in the Indo-Asia-Pacific region, in July 2015, featured 21 ships, including U.S. Navy aircraft carrier USS *George Washington* (CVN 73) and more than 200 aircraft and three submarines. This exercise continued to emphasize our Navy's worldwide presence and honed the skills to plan and execute contingency responses, from combat missions to humanitarian assistance efforts. The USS *Lassen* (DDG 82) continued to further U.S. presence and promote maritime security worldwide through participation in multilateral exercises with the Republic of Korea, France and Turkey, and patrols in the South China Sea. Additionally, the USS *Fort Worth* (LCS 3) conducted Code for Unplanned Encounters at Sea (CUES) exercises with the Chinese People's Liberation Army-Navy and completed the Cooperation Afloat Readiness and Training with our Indonesian allies to enhance interoperability and address shared maritime security priorities.

Our Naval forces in the 5th and 6th Fleet Areas of Operations (AOR) conducted a variety of missions in support of mine-countermeasure operations, Ballistic Missile Defense, counter terrorism and maritime security throughout 2015. In the 5th Fleet AOR, Commander Task Force (CTF) 52, consisting of US and United Kingdom units, successfully completed Mine Countermeasure Exercises (MCMEX) in November 2015. 6th Fleet's the USS *Cook* conducted ballistic missile defense exercises and participated in NATO's counter terrorism operation Active Endeavor in July and August 2015 in the Mediterranean and Black Seas. Additionally, USS *Ross* participated in a passing exercise (PASSEX) with Romanian, Turkish and Ukrainian navies to strengthen partnerships with allies advancing security and stability in the Black Sea region. Furthermore, Naval Special Operations Forces (NAVSO) continue operations in the Middle East, the Horn of Africa, and Central Asia. More specifically, NAVSO is manning the Combined Joint Special Operations Task Force-Iraq and deploying forces to Afghanistan. Their operational tempo remains high.

The Marine Corps executed over 100 operations, 20 amphibious operations, 140 Theater Security Cooperation (TSC) events, and participated in 160 exercises during calendar year 2015. Marine Corps units deployed to every Geographic Combatant Command (GCC) and executed numerous TSC exercises to help strengthen relationships with allies and build partner capacity. Marines from Special Purpose Marine Air Ground Task Force – Crisis Response (SPMAGTF – CR) – Central Command and Advise and Assist teams advised and enabled the Iraqi Army. SPMAGTF-CR-Africa incident response force maintained various alert postures from Naval Air Station Sigonella, Italy, Naval Station Souda Bay, Greece, and Moron Air Base, Spain during

multiple iterations of Special Operations Command Africa operations, and provided fixed site security forces to US Embassy Bangui, Central African Republic, to assist in the reopening of the embassy.

Marine Expeditionary Units (MEU) provided support to the U.S. Embassy Sana'a, Yemen to safeguard American civilians and facilities including facilitating the evacuation of the Embassy in February and March. The 31st MEU also deployed to Saipan to provide Defense Support to Civil Authorities as Typhoon Soudelor passed through the Commonwealth of the Northern Marianas killing 30 and displacing 150,000 people. Marine Security Augmentation Units (MSAU) teams deployed 33 times in 2015 at the request of the State Department executing 12 Embassy/Consulate security missions and 21 VIP security missions. Additionally, Joint Task Force-505 (JTF-505) was activated in April 2015, under USMC operational command, in response to a large earthquake in Nepal which killed over 8,000 people and injured more than 21,000. JTF-505 Forward assumed command of all Department of Defense assets in support of Foreign Disaster Relief operations in Nepal and delivered about 114 tons of emergency relief supplies, transported 534 personnel and conducted 63 casualty evacuations.

Our Nation's away team, the Navy and Marine Corps, continues to stand the watch with an operational tempo that keeps nearly half of our Fleet underway every day. We must continually adapt to the emerging security environment to ensure our military's reach, presence, capability, and resolve to maintain this pace of operations remains superior in today's and tomorrow's world.

The Fiscal Year 2017 President's Budget Request

Our ability to respond to the dynamic strategic environment, high operational tempo and Combatant Commander requirements is constrained by the current fiscal realities. The Department is still recovering from funding shortfalls over FY 2013-2016 that collectively provided \$30 billion less than the levels requested in our President's Budget submissions. The Bipartisan Budget Act of 2015 (BBA) provided critical relief from a return to sequestration levels in FY 2016 and FY 2017, but even with overseas contingency operations funding, the Navy's FY 2017 request is 3.9 percent less than the FY 2017 funding level requested in the FY 2016 President's Budget.

This fiscal context drives tough choices, but also inspires new thinking in order to best balance between capability, capacity, readiness and the vital industrial base. The FY 2017

President's Budget integrates the mission guidance, operational context, and fiscal constraints in making focused investments, hard prioritized choices, and innovative reform to resource and deliver a global sea-based force. The Department's shipbuilding, aviation and ground vehicle plans are formulated to provide the required force structure with the right capabilities, while preserving alternatives regarding the future force and the industrial base required to support it.

The Navy's current battle force objective of 308 ships is set by the FY 2014 update to the 2012 Force Structure Assessment (FSA). The FSA defines the balanced naval force, by type and quantity of ships, required to meet the full range of global naval operations that span from peace time presence to major combat operations.

The Navy's long range plan to reach and maintain the requirements of the FSA is outlined in the "30 Year Shipbuilding" report submitted to Congress each year. The fundamental principles bridging the long range shipbuilding plan and the 308-ship Navy defined by the FSA are that:

- (i) the Navy's force structure, today and for the future, underpins our ability to provide for our national security;
- (ii) a balanced mix of ships is necessary in order to conduct the wide range of operations required of the Fleet in the most effective, affordable manner possible;
- (iii) the duration required to construct complex naval warships combined with the rate at which we procure these ships, requires the Navy to plan decades in advance to affect the size and capabilities of the force; and
- (iv) stable, predictable ship construction at a sufficient rate is critical to Industry to enable it to make the capital investments and retain the critically skilled workforce required to build our Fleet, and critical to the Navy to enable us to procure our Fleet in the most effective, affordable manner possible.

With the strong support of Congress and close adherence to the long range shipbuilding plan over the period 2009-2016, the Navy is certain to reach a Battle Force of 308-ships in 2021 (the nominal year in which those ships procured by FY 2016 will have been delivered to the Navy). This twelve year span required to go from a Navy of 278 ships in 2009 to 308 ships in 2021, exemplifies the importance of the principles outlined above and, accordingly, why shipbuilding must remain a top priority for the Department of the Navy if we are to continue to provide the measure of maritime security and power projection required of our naval forces in the decades ahead. The FY 2017 President's Budget and the corresponding FY 2017 to FY 2021

Future Years Defense Plan (FYDP) establish the shipbuilding trajectory that will shape our Battle Force and its underpinning industrial base in the years following FY 2021.

The FY 2017 President's Budget request includes seven ships in FY 2017: two SSN 774 *Virginia* class attack submarines, two DDG 51 *Arleigh Burke* class destroyers, two Littoral Combat Ships (LCS), and one LHA 8 amphibious assault ship. In total, across the FY 2017 FYDP, this budget maintains most of the elements of our planned ship procurements in support of the FSA. However, in view of the Navy's projection that it will meet its force structure requirements in 2021 and in light of a separate capabilities based risk assessment by the Department of Defense, within the constraints of a budget impacted by the BBA, it was determined that a shift from shipbuilding investment towards investment in modernization and advanced capabilities would provide the best overall balance of capability and capacity to meet the needs of the current and future fleet. This decision results in an overall reduction to 38 ships in the FY 2017 FYDP, most notably impacting our small surface combatants.

Naval Aviation

Naval Aviation provides our Nation's leaders with responsive, scalable, and decisive means to maintain maritime security, project power ashore, deter and, when necessary, defeat our adversaries. The Navy/Marine Corps 'Vision for Naval Aviation 2025' provides the framework for determining investment priorities across the triad of warfighting capability, capacity, and aviation wholeness.

Specifically, the FY 2017 President's Budget (as it affects the Seapower and Expeditionary Forces portfolio): enables Naval Aviation to continue recapitalization of our aging fleets of early warning and maritime patrol platforms with the E-2D and P-8A aircraft and continues investments in unmanned aircraft systems for persistent, multi-role intelligence, surveillance, and reconnaissance (ISR) capabilities with the Carrier-based RAQ-25, Unmanned Aircraft System (UAS), the MQ-4C Triton, the MQ-8 Fire Scout, the RQ-21 Blackjack and the RQ-7B Shadow. Additionally, this budget fully implements the Department's Cruise Missile strategy with investments in Tactical Tomahawk production, mid-life recertification and modernization efforts; fielding of the Long Range Anti-Ship Missile (LRASM) as the Offensive Anti-Surface Warfare (OASuW) Increment 1 material solution; and development of follow-on Next Generation Strike Capability (NGSC) weapons (OASuW Increment 2 and Next Generation Land Attack Weapon (NGLAW)) to address the future threats.

Expeditionary Warfare

The whole principle of Expeditionary Warfare is to operate forward, to exploit the seas as maneuver space - as a base for global power projection - and to be ready to maneuver to shore when so ordered. Our ability to deploy from the sea in austere environments at a time and place of our choosing gives us significant tactical, operational and strategic advantages over potential adversaries.

The Navy/Marine Corps team provides the Combatant Commanders and our Nation the options needed to engage with our partners, to deter our adversaries and, when necessary, to fight and win. In the 36th Commandant's planning guidance, he emphasized the "inherent flexibility, scalability, and combined arms capability" of the Marine Air Ground Task Force (MAGTF). At its core, the capability - the strength - of the MAGTF is that of our Sailors and Marines; well-disciplined, well trained, and well-equipped with the amphibious ships, aircraft, armored vehicles, and weapon systems of our combined naval force. Unique to our expeditionary warfare capabilities is the ability to maneuver ashore and force entry once there. That ability is provided through the combination of connectors that move the ground force from the sea base to the ashore objective and the organic capability of the ground force to maneuver and fight once ashore.

The FY 2017 President's Budget provides for the Ship to Shore Connector (SSC) across the FYDP as well as the portfolio of ground combat and tactical vehicles (GCTV), and the Command and Control (C2) systems needed to leverage the entire MAGTF once ashore.

Summary

Safely, reliably, certainly, your Navy and Marine Corps are stationed around the globe; maintaining their readiness, sustaining their high operational tempo, and conducting naval missions spanning from peacetime presence to war in response to the demands of their Combatant Commanders and the needs of the Nation. The Department of the Navy's FY 2017 budget provides the warfighting capabilities - ships, aircraft, amphibious and armored vehicles, combat and C4I systems, and weapons - required by our Sailors and Marines in the performance of their mission against the increasingly complex threats that challenge our security and that of our partners and allies around the globe today.

Reductions to the Department's FY 2017 top line due to the Bipartisan Budget Act of 2015 and the Budget Control Act of 2011, however, have forced revisions to the shipbuilding,

aviation, and Marine Corps programs that we presented to the Congress with the FY 2016 budget. We have been aggressive in our efforts to drive down the cost of our weapon systems in order to offset this top line reduction to the extent possible. Ultimately, however, we have been required to make cuts to programs that we presented as warfighting requirements just one year ago. We have been judicious in these decisions and are prepared to provide the Committee the basis and impact to operational requirements, cost, and the industrial base associated with each of these decisions. Programmatic details regarding Navy and Marine Corps capabilities and the Department of the Navy FY 2017 budget request are summarized in the following section.

Congress' strong support for the Department of the Navy's FY 2016 budget is a great testament of your support for our Sailors and Marines and their mission. We look forward to continuing to work closely with you and hope to build upon such past strong support as you evaluate this FY 2017 budget request and carry out your responsibilities to "provide and maintain a Navy."

US NAVY AND MARINE CORPS SEAPOWER AND PROJECTION FORCES CAPABILITIES

Aircraft Carriers

The aircraft carrier is the centerpiece of the Navy's Carrier Strike Groups and central to Navy core capabilities of sea control, maritime security, and humanitarian assistance and disaster relief. Our aircraft carriers' ability to provide forward presence; to rapidly and decisively respond to global crises; to simultaneously deter potential adversaries and assure allies; and to project power at sea and ashore make these national assets the first instruments of our Nation's will and the definitive symbol of our Nation's defense strategy.

Nimitz and *Ford* class carriers will be the premier forward deployed asset of choice for crisis response and early decisive striking power in major combat operations for the next half-century. The Department has established a steady state *Ford* class procurement plan designed to deliver each new ship in close alignment with the *Nimitz* class ship it replaces. The *Ford* class design improves warfighting capability, survivability, operational availability, and quality of life for Sailors, while reducing total billets, including ship's crew and airwing, by nearly 1,200 personnel and decreasing total ownership costs by approximately \$4 billion per ship.

The Navy is committed to delivering the lead ship of the class, *Gerald R Ford* (CVN 78) within the \$12.887 billion congressional cost cap. Sustained efforts to identify cost reductions and drive improved cost and schedule performance on this first-of-class aircraft carrier have resulted in highly stable cost performance since 2011. Based on lessons learned on CVN 78, the approach to carrier construction has undergone an extensive affordability review and the Navy and the shipbuilder have made significant changes on CVN 79 to reduce the cost to build the ship. The benefits of these changes in build strategy and resolution of first-of-class impacts experienced on CVN 78 are evident in early production labor metrics on CVN 79. These efforts are ongoing and additional process improvements continue to be identified.

Alongside the Navy's efforts to reduce the cost to build CVN 79, the FY 2016 National Defense Authorization Act reduced the cost cap for follow ships in the CVN 78 class from \$11,498 million to \$11,398 million. To this end, the Navy has further emphasized stability in requirements, design, schedule, and budget, in order to drive further improvement to CVN 79 cost. The FY 2017 President's Budget requests funding for the most efficient build strategy for

this ship and we look for Congress' full support of this request to enable CVN 79 procurement at the lowest possible cost.

USS *Gerald R Ford* (CVN 78) is in the final stages of lead ship completion. As of January 2016, CVN 78 is 96 percent complete. 80 percent of the Hull, Mechanical, and Electrical Testing (HM&E) and 63 percent of Electronics testing is complete. CVN 78 is scheduled to begin Sea Trials in June 2016 and deliver in late August/early September 2016. Post Delivery Post Shakedown Availability (PSA) is planned for 2017 and the first of class Full Ship Shock Trials are planned for FY 2019. CVN 78's first deployment is planned for FY 2021.

The Navy awarded the CVN 79 fixed price construction contract in June 2015 and as of January 2016 the ship is 16 percent complete. The keel was laid in July and launch is planned for 2020. The Navy will deliver the CVN 79 within the cost cap using a two-phased strategy wherein select ship systems and compartments that are more efficiently completed at a later stage of construction - to avoid obsolescence or to leverage competition or the use of experienced installation teams - will be scheduled for completion in the ship's second phase of production and test. *Enterprise* (CVN 80) began construction planning and long lead time material procurement in January 2016 and construction is scheduled to begin in 2018. The FY 2017 President's Budget request re-phases CVN 80 funding to support a more efficient production profile, critical to performance, below the cost cap. CVN 80 planning and construction will continue to leverage class lessons learned to achieve cost and risk reduction, including efforts to accelerate production work to earlier phases of construction, where work is more cost efficient.

The *Nimitz* class Refueling Complex Overhaul (RCOH) is key to both the maintenance and modernization of each carrier in support of the second half of its service life. USS *Abraham Lincoln* (CVN 72) is scheduled to complete steam plant testing in Spring 2016 and is scheduled to complete RCOH and return to the Fleet in November 2016. USS *George Washington* (CVN 73) executed her homeport shift to Norfolk, Virginia in December 2015 for a scheduled RCOH start in August 2017. CVN 73 advanced planning activity and long lead time material procurement initiated in February 2015.

Submarines

Submarines' stealth and ability to conduct sustained forward-deployed operations in anti-access/area-denial environments serve as force multipliers by providing high-quality

Intelligence, Surveillance, and Reconnaissance (ISR) as well as indication and warning of potential hostile action. In addition, attack submarines are effective in anti-surface warfare (ASuW), undersea warfare and the insertion of Special Operating Forces (SOF) in almost every environment, thus eliminating any safe-haven that an adversary might pursue with access-denial systems. As such, they represent a significant conventional deterrent. The Navy is mitigating an impending attack submarine force structure shortfall that commences in the mid-2020s through multiple parallel efforts: continuing procurement of two SSN 774 *Virginia* class submarines per year; reducing the construction span of *Virginia* class submarines; and extending the service lives of select attack submarines (SSN 688s) with the potential to reduce the SSN shortfall of 51 ship years. While each of the Navy's attack submarines provides considerable strike capacity, guided missile submarines (SSGN) provide substantially more strike capacity and a much more robust capability to deploy SOF personnel. Lastly, the Navy's 14 ballistic missile submarines (SSBNs) provide the Nation with an around-the-clock, credible, modern and survivable sea-based strategic deterrent.

Ballistic Missile Submarines coupled with the TRIDENT II D-5 Strategic Weapons System, represent the most survivable leg of the Nation's strategic arsenal and provide the Nation's most assured nuclear response capability. Originally designed for a 30-year service life, the *Ohio* class was extended to its current limit of 42 years of operation. As the current SSBN and SSGNs' life cycles cannot be extended further, the U.S. continued development of the follow-on twelve ship OHIO Replacement (OR) SSBN program for a lead ship delivery in 2028 is vital. This is our top priority program within the Department of the Navy.

The OR program achieved significant progress in 2015 as the program's Capability Development Document (CDD) was validated by the Joint Requirements Oversight Council (JROC) in August and the program Technical Baseline was locked in November with a robust plan for requirements control and cost containment. In January 2016, the Navy released the Detail Design Request for Proposal for the OR program to the prime contractor, General Dynamics Electric Boat (GDEB), and anticipates awarding the contract by the end of 2016. The contract effort will produce the diagrams, drawings and information necessary to design, build, test and operate this class of submarines, enabling the shipbuilder to formally start construction in 2021. The program is on track to mature technologies to meet requirements defined in the CDD and proceed to detail design in the Engineering and Manufacturing Development (EMD) Phase after the Milestone B decision in summer of 2016.

The FY 2017 President's Budget requests funding to continue development of the OR SSBN. The first-of-class ship is to be procured in FY 2021, with Shipbuilding and Conversion, Navy (SCN) funding for detail design commencing in 2017 and advance procurement for long lead time material commencing in 2019. Previous modernizations of the strategic deterrent and nuclear security enterprise were accompanied by topline increases.

The Navy greatly appreciates Congressional support in overcoming the challenges posed by funding the OR Program. The procurement authorities such as Economic Order Quantity, Advance Construction, and Incremental Funding, provided in the FY 2016 National Defense Authorization Act are not required in FY 2017. However, the Navy will work with Congress in 2016 to provide details regarding how these authorities contribute to achieving the overarching objectives of delivering the OR capability on schedule and in the most affordable manner. The 2017 President's Budget continues to request funding for the OR Program via the SCN and Research, Development, Test and Evaluation, Navy (RDT&E,N) appropriations to ensure the same level of transparency, accountability, and adherence to financial management principles and policies as all other shipbuilding programs.

The FY 2017 President's Budget requests full funding for two SSN 774 *Virginia* class submarines and advance procurement for the FY 2018 and FY 2019 vessels. The *Virginia* class submarine program has delivered the last eight ships on budget and ahead of schedule. The last ship delivered, USS *John Warner* (SSN 785), which features a completely redesigned bow section as part of the Design for Affordability efforts (an approximate 20 percent design change) delivered over two months early with the least number of deficiencies of any *Virginia* class submarine to date. The Block IV contract for ten ships continues the co-production of the *Virginia* class submarines between GDEB and Huntington Ingalls Industries - Newport News Shipbuilding (HII-NNS) through FY 2018. The savings realized with this Multi Year Procurement (MYP) contract was over \$2 billion, effectively giving the Navy "ten ships for the price of nine". The Navy intends to build on these savings and capitalize on increased efficiency and decreased costs with a *Virginia* class Block V MYP contract for up to 10 boats, planned for FY 2019.

The Navy's four SSGNs, provide significant undersea strike capability and SOF capability. To mitigate the 60 percent reduction in undersea strike capacity when these boats retire in FY 2026 - FY 2028, the Navy is investing in the *Virginia* Payload Module (VPM). VPM will include a hull insert amidships of a *Virginia* class submarine that will contain four 87-

inch diameter missile tubes each capable of launching seven TOMAHAWK cruise missiles utilizing the same Multiple All-Up Round canisters currently in use on SSGNs. The FY 2017 President's Budget continues VPM Research and Development and starts SCN funding for detail design and long lead time material efforts to enable integrating VPM into Block V *Virginia* class SSNs starting with one in FY 2019 and then increasing procurement to all the remaining Block V ships starting in FY 2020. Additionally, the FY 2017 President's Budget includes funding for Acoustic Superiority (AS) initiatives to be incorporated in Block V and later *Virginia* class SSNs. AS addresses the Chief of Naval Operations' (CNO's) undersea dominance mandate to pace the future threat and is comprised of an enhanced hull treatment, the addition of a large vertical array, and selected machinery quieting changes.

In 2014, the Navy led a comprehensive government-Industry assessment of shipbuilder construction capabilities and capacities at GDEB and HII-NNS to formulate the Submarine Unified Build Strategy (SUBS) for concurrent OR and *Virginia* class submarine production. This build strategy's guiding principles are: affordability, delivering OR on time and within budget, maintaining *Virginia* class performance with a continuous reduction in costs, and maintaining two shipbuilders capable of delivering nuclear-powered submarines. To execute this strategy, GDEB has been selected as the prime contractor for OR with the responsibilities to deliver the twelve OR submarines. HII-NNS will design and construct major assemblies and OR modules leveraging their expertise with *Virginia* construction. Both shipbuilders will continue to deliver *Virginia* class submarines throughout the period with GDEB continuing its prime contractor responsibility for the program. Given the priority of the OR Submarine Program, the delivery of *Virginia* class submarines will be adjusted with HII-NNS performing additional deliveries. Both shipbuilders have agreed to this build strategy.

In addition to the Department of the Navy's budget request, the continued support of Congress for Naval Reactors' Department of Energy (DOE) funding is vital to the Navy mission and ensuring the safe, reliable and enduring operations of the nuclear-powered Fleet. The President's FY 2017 DOE budget fully funds Naval Reactors request for the OR SSBN. This funding is critical to maintain the reactor design and development in synch with the Navy shipbuilding schedule to support lead ship procurement in 2021. The DOE budget submission also provides full funding for refueling the Land-based Prototype. This effort not only supports development of the OR SSBN life-of-the-ship core, but also ensures Naval Reactors continues to train about 2,000 nuclear-qualified sailors per year for the next twenty years. Naval Reactors'

DOE budget also includes funding for the Spent Fuel Handling Project. Recapitalizing this capability is critical to the Navy's tight refueling and defueling schedule of nuclear-powered aircraft carriers and submarines.

Large Surface Combatants

Guided missile cruisers (CGs) and guided missile destroyers (DDGs) comprise our large surface combatant fleet. These ships fulfill broad mission requirements both independently and in conjunction with a strike group with demands for increased capability and capacity in Ballistic Missile Defense (BMD) and Integrated Air and Missile Defense (IAMD), a continued focal point. In order to meet the increased demand for BMD, the Navy forward deployed four BMD capable DDGs, USS *Donald Cook* (DDG 75) and USS *Ross* (DDG 71) in FY 2014, and the USS *Carney* (DDG 64) and USS *Porter* (DDG 78) in FY 2015 to Rota, Spain. Additionally, the BMD ships USS *Benfold* (DDG 65) and USS *Barry* (DDG 52) departed in October 2015 and January 2016 respectively to forward deploy to Yokosuka, Japan. The Anti-Submarine Warfare (ASW) combat systems on DDGs and CGs are also being upgraded, bringing significant improvements over legacy systems.

The *Arleigh Burke* class (DDG 51) program remains one of the Navy's most successful shipbuilding programs with 62 ships currently operating in the Fleet. The FY 2017 President's Budget includes funding for two destroyers to execute the final year of the current MYP. Both ships will incorporate Integrated Air and Missile Defense and provide additional BMD capacity known as Flight III, which incorporates the Air and Missile Defense Radar (AMDR) and will deliver this much needed capability, essential for future sea-based BMD, to the Fleet in the early FY 2020s. The \$1 billion of incremental funding provided by Congress in the FY 2016 budget for an additional DDG underscores the importance of these ships. The Navy will keep Congress advised throughout 2016 as we develop plans to award this ship.

AMDR is the future multi-mission radar of the Navy's surface combatant fleet, which will meet the growing ballistic missile threat by improving radar sensitivity and enabling longer range detection for engagement of increasingly complex threats. The AMDR radar suite will be capable of providing simultaneous surveillance and engagement support for long range BMD and area defense. The program continues to demonstrate maturity in its design development including the successful completion of the AMDR System Critical Design Review and the successful design verification testing conducted thus far in the early stages of developmental

testing. Detail design efforts for the DDG Flight III design will continue in FY 2016, ultimately leading to over 90 percent detail design completion prior to start of construction on the first Flight III ship in FY 2016.

The DDG 1000 *Zumwalt* class guided missile destroyer will be an optimally crewed, multi-mission, surface combatant designed to provide long-range, precision, naval surface fire support to Marines conducting littoral maneuver and subsequent operations ashore. In addition to the ship's two 155mm Advanced Gun Systems capable of engaging targets with the Long Range Land Attack Projectiles, the ship will be capable of conducting ASW, Anti Air Warfare (AAW), land attack, and will provide valuable advancements in technology such as signature reduction (both acoustic and radar cross-section), active and passive self-defense systems, enhanced survivability features, and shipboard automation (in support of reduced manning). The DDG 1000 program accomplished several construction milestones in 2015 including an initial sequence of sea trials which tested the ship's hull, mechanical, and electrical systems. DDG 1000 will complete sea trials for Navy acceptance in the early part of 2016 and deliver to the Navy later this year.

Small Surface Combatants

LCS enables the Navy to implement the Defense Strategic Guidance (DSG) directive to develop innovative, low-cost, and small-footprint approaches to achieve our security objectives. The modular, open systems architecture inherent in LCS allows for rapid, affordable integration of new warfighting capabilities as technology evolves. LCS is designed to fill critical warfighting gaps assigned to the small surface combatant force across the full range of military operations while also fulfilling naval global commitments in operations other than war. LCS design characteristics (speed, agility, shallow draft, payload capacity, reconfigurable mission spaces, air/water craft capabilities) combined with its core command, control, communications, computers and intelligence (C4I); sensors; and weapons systems, allow LCS to bring unique strengths and capabilities to the mission.

The Fast Frigate will incorporate significant improvements in lethality, survivability and capability from the LCS baseline configuration. The ship will provide multi mission ASuW and ASW capabilities as well as continuous and effective air, surface and underwater self-defense capabilities. The Frigate will be equipped with over-the-horizon (OTH) surface-to-surface

missiles (in addition to LCS baseline Surface Warfare (SUW) and ASW Mission Package (MP) capabilities), and additional upgrades to combat and electronic warfare systems.

The 2014 FSA update outlines the requirement for 52 Small Surface Combatants (SSCs) and determined a need for 26 deployed SSCs to meet the Navy's global peacetime and wartime requirement. The Navy's 2016 Long Range Shipbuilding Plan and the FY2016 Future Years Defense Plan (FYDP) included procurement of 14 LCS/Fast Frigate (FF) ships in FY2017-2021. In order to balance current and future capability needs within the FY 2017 top line constraints, the procurement plan for LCS/FF was reduced to seven ships within the FYDP and the overall inventory objective was reduced from 52 to 40 ships. The Navy will evaluate the risk associated with this budget decision, in the broader context of total large and small surface combatant ship inventory, in the course of the 2016 FSA update to inform future shipbuilding plans.

The FY 2017 President's budget requests funding for the Navy to competitively award one LCS to each shipbuilder and solicit block buy LCS proposals from each shipbuilder, to be submitted with their 2017 ship proposals. Additionally, it includes a request for RDT&E,N funding to proceed with completion of respective Frigate designs. A competitive down-select to a single shipbuilder is planned for FY2019, but potentially as early as FY2018 based on the proposed Frigate design and the modified block buy cost. This acquisition strategy sustains the two shipbuilders competing for the single ship awards in FY 2017 while enabling competitors to align long term options with their vendor base in support of the subsequent down-select, and accelerates delivery of the desired more lethal and survivable Frigate capability to the Fleet. Additionally, the plan preserves the viability of the industrial base in support of a pending decision regarding Foreign Military Sales opportunities, all the while preserving future decision space regarding the Frigate procurement should further future changes to operational requirements, budget, or national security risk dictate the need.

It is recognized that this down-select decision places one of our shipbuilders and part of the support industrial base at risk of closure. The Navy will use this current period of stable production – prior to the down-select decision – to thoroughly assess the impact of such potential closure on our strategic shipbuilding industrial base, the cost of our shipbuilding program, and our ability to support in-service ships, in order to identify appropriate actions to mitigate these impacts to the extent practical.

The LCS Mission Modules program provides focused Mission Packages for LCS that address critical Navy SUW, Mine Countermeasures (MCM), and ASW gaps identified in the

2004 Assured Maritime Access in the Littorals Initial Capabilities Document. The LCS Mission Modules program continues to field capability incrementally as individual mission systems become available in order to fill these critical warfighting gaps. The SUW Mission Packages are being introduced in three phases, providing capability to address Fast Attack Craft and Fast Inshore Attack Craft in the littorals, and maritime security and escort roles previously assigned to *Oliver Hazard Perry* class Frigates and *Cyclone* class patrol ships. MCM Mission Packages are being fielded in four phases delivering capability to address maritime mines and to replace legacy *Avenger* class Mine Countermeasures ships and MH-53E Sea Dragon helicopters that are nearing the end of service life. The ASW Mission Package will be delivered in a single phase and provides counter-submarine capability in littoral and deep water environments, High Value Unit (HVV) ASW escort and barrier patrol capability.

Increment 1 of the SUW Mission Package has completed Initial Operational Test & Evaluation (IOT&E) and is successfully deployed on the USS *Fort Worth* today. The initial phase of IOT&E for the Increment 2 SUW MP, aboard an Independence-variant ship, was completed in September 2015. A subsequent phase of IOT&E will be conducted in the Summer of FY 2016, following upgrades to the ship's Integrated Combat Management System and SeaRAM weapon system. USS *Fort Worth* (LCS 3), with an embarked SUW MP, is currently on an extended operational deployment based out of Singapore. This SUW MP includes the first time deployment of a combined MQ-8B Fire Scout Vertical Take-off Unmanned Aerial Vehicle and a MH-60R helicopter aviation detachment. Finally, the Navy completed the second in a series of Guided Test Vehicle launches of the Army's Hellfire Longbow missile in December 2015 to evaluate performance of the Surface-to-Surface Missile Module launcher and missile system in a littoral environment. The demonstration showed that the vertically-launched missiles could effectively acquire, discriminate and engage the representative targets.

Technical Evaluation (TECHEVAL) of the Increment 1 MCM MP was completed in August 2015, aboard USS *Independence* (LCS 2). The Mission Package met the majority of its sustained area coverage rate test requirements, but significant reliability issues were noted with the Remote Multi-Mission Vehicle (RMMV) and associated subsystems. Based on TECHEVAL results, CNO and ASN (RDA) chartered an Independent Review Team to assess the Remote Minehunting System (RMS). The review team recommended halting the procurement of the RMMV Low Rate Initial Production (LRIP) 2 and recommended pursuing acceleration of other promising near term technologies to accomplish the MCM mission. The Navy will coordinate

with all stakeholders, particularly the Fleet, in developing the way ahead for this important capability.

The ASW Mission Package, which comprises a continuously active variable depth sonar, multi-function towed array, and a torpedo defense capability, is conducting Developmental Testing (DT). The ASW MP is on track to complete DT in FY 2017 with IOT&E in late FY 2018.

Amphibious Ships

Amphibious ships operate forward to support allies, respond to crises, deter potential adversaries, and provide the Nation's best means of projecting sustainable power ashore. They also provide an excellent means for providing humanitarian assistance and disaster relief. Amphibious forces comprised of Sailors, Marines, ships, aircraft and surface connectors provide the ability to rapidly and decisively respond to global crises without a permanent footprint ashore that would place unnecessary political or logistical burdens upon our allies or potential partners. There are two main drivers of the amphibious ship requirement: maintaining persistent forward presence, which enables both engagement and crisis response, and delivering the assault echelons of Marine Expeditionary Brigades (MEB) for joint forcible entry operations.

The CNO and Commandant of the Marine Corps have determined that the force structure for amphibious lift requirements is 38 amphibious ships, fiscally constrained to 34 ships. Balancing the total naval force structure requirements against fiscal projections imposes risk on meeting this requirement. Based on the footprint of a 2.0 MEB assault echelon force and assuming 90 percent operational availability, a minimum of 30 operationally available ships is assumed for operational planning. This would require a force made up of ten Amphibious Assault Ships (LHD/LHA), ten Amphibious Transport Docks (LPD) and ten Dock Landing Ships (LSD). At the end of FY 2017, the Amphibious Force Structure will be 32 ships (9 LHD/LHAs, 11 LPDs, and 12 LSDs) increasing to 34 ships throughout the 2020s and 2030s. The Navy plans to maintain 11 deployable LSDs in the active force until LX(R) delivers by rotating three LSDs to complete phased modernizations beginning in FY 2016. This will extend USS *Whidbey Island* (LSD 41), USS *Germantown* (LSD 42), and USS *Tortuga* (LSD 46) to provide 40 years of operational service life. This plan mitigates presence shortfalls and supports 2.0 MEB Assault Echelon shipping requirements.

LHA 6 *America* class ships are flexible, multi-mission platforms with capabilities that span the range of military operations, from forward deployed crisis response to forcible entry operations. These ships will provide the modern replacements for the LHA 1 *Tarawa* class ships, which have all decommissioned as of 2015, and the aging LHD 1 *Wasp* class ships as they begin decommissioning in the late 2020s. USS *America* (LHA 6) and *Tripoli* (LHA 7) are optimized for aviation capability and do not include a well deck. USS *America* completed a portion of its Operational Test and Evaluation activities in San Diego, CA and commenced PSA in May 2015. The ship is scheduled to complete PSA in Spring 2016 and will subsequently complete further operational testing and training. As of January 2016, LHA 7 construction is 41 percent complete and on schedule to deliver in 2018.

LHA 8, the first Flight 1 ship, will have a well deck to increase operational flexibility and a smaller island that increases flight deck space to enhance aviation capability. The Navy completed the LHA 8 early industry involvement affordability phase in FY2015 in which 300 cost reduction initiatives were developed by industry and the Navy and Marine Corps. The affordability cost reduction initiatives drove technical and production improvements throughout the ship design culminating in the ship specification issued to industry for more affordable ship design and construction. LHA 8 is currently in competitive source selection as part of an amphibious and auxiliary shipbuilding acquisition strategy to support stability and affordability for this sector of the industrial base. Long lead time material procurement and detail design is scheduled to begin in June 2017, construction is funded in FY 2017 and FY 2018 and delivery is planned for FY 2024.

The *San Antonio* class (LPD 17) provides the ability to embark, transport control, insert, sustain, and extract elements of a MAGTF and supporting forces by helicopters, tilt rotor aircraft, landing craft, and amphibious vehicles. Two ships are under construction, *John P. Murtha* (LPD 26) and *Portland* (LPD 27), and will deliver in Summer 2016 and 2017, respectively. The balance of funding for LPD 28 was provided in FY 2016. LPD 28 will possess all of the key fundamental capabilities and characteristics associated with LPDs 17 through 27, to include command and control, aviation operations and maintenance, well deck operations, and medical and will also incorporate system updates due to obsolescence. LPD 28's design and construction features will, at the same time, exploit many of the ongoing LX(R) design innovations and cost reduction initiatives that are necessary for the program to achieve affordability goals while maintaining the high level capabilities of the LPD 17 class. The

procurement of LPD 28 will also assist in mitigating critical impacts to shipbuilding and combat systems industrial bases caused by the gap in ship construction, pending the award for LX(R) procurement.

LX(R) is the replacement program for the landing ship dock, LSD 41 and LSD 49 classes, which will begin reaching their estimated service life in the mid-2020s. LX(R) is envisioned to be a flexible, multi-mission warship with capabilities that support execution of the full range of military operations. The need to support disaggregated or split operations away from the Amphibious Ready Group or to deploy independently is a key driver for the design of this ship class. The inherent flexibility of amphibious ships is demonstrated by their support to seven of the 10 missions in the DSG. LX(R) will leverage mature design using the LPD-17 hull form while balancing cost and requirements to deliver key capabilities. The lead LX(R) will deliver in FY2025 in advance of LSD 43's retirement in FY 2027.

The Consolidated Appropriations Act, 2016 added funding for the acceleration of LX(R) and the program focus during FY 2016 will be on validating the requirements in the Capability Development Document and executing contract design efforts. The Navy will initiate key long lead time material procurements critical to maintaining a stable supplier base, and commence design efforts necessary to accelerate design activities to FY2019. This earlier start will enable design completion and start of construction up to a year earlier, and delivery in FY 2025, one year earlier than originally planned. The LX(R) contract design effort is part of the Navy's combined limited procurement acquisition strategy of LHA 8 and six T-AO(X) ships. Both General Dynamics NASSCO and Huntington Ingalls Industries, Ingalls Shipbuilding will be awarded a share of the LX(R) Contract Design, upon awards of LHA 8 and T-AO(X) contracts.

Auxiliary Ships

Support vessels such as the Expeditionary Sea Base (ESB, formerly Afloat Forward Staging Base), Expeditionary Transfer Dock (ESD, formerly Mobile Landing Platform) and the Expeditionary Fast Transport (EPF, formerly Joint High Speed Vessel) provide additional flexibility to the Combatant Commanders. The USNS *Montford Point* (ESD 1) and USNS *John Glenn* (ESD 2) provide two core capabilities of vehicle and equipment transfer at-sea and interface with surface connectors to deliver vehicles and equipment ashore to complete arrival and assembly. The USNS *Lewis B Puller* (ESB 3), the first Afloat Forward Staging Base (AFSB) variant of the ESD, was delivered in June 2015. ESBs are flexible platforms capable of

hosting multiple mission sets with airborne, surface, and subsurface assets. The Navy started construction of ESB 4 in October 2015, and is planning for a FY 2016 award of the fifth ESB. While not a substitute for amphibious warships, the ESB will relieve pressure on our amphibious fleet in routine operations. The EPF provides a high-speed, shallow-draft alternative to moving personnel and materiel within and between the operating areas, and to supporting security cooperation and engagement missions. The Navy continues to explore opportunities to further enhance EPF's operational profile to support/enhance warfighter requirements such as Special Operations support, Maritime Interdiction Operations, and ISR missions. EPF 6 was delivered in January 2016 and production continues with EPFs 7-10. In FY 2016, Congress provided funding for a twelfth EPF and the Navy is currently issuing a Request for Proposal for construction of EPF 11 and 12.

The Combat Logistic Force consists of T-AOE fast support ships, T-AKE auxiliary dry cargo ships, and T-AO fleet replenishment oilers. Combat Logistics Force ships fulfill the vital role of providing underway replenishment of fuel, food, repair parts, ammunition and equipment to forward deployed ships and embarked aircraft, to enable them to operate for extended periods of time at sea. The T-AO and T-AKE ships serve as shuttle ships between resupply ports and their customer ships, while the T-AOE ships serve as station ships, accompanying and staying on-station with a Carrier Strike Group to provide fuel as required to customer ships. The Navy continued its efforts in 2015 to mature its concept for the replacement of the *Kaiser* class (T-AO 187) of Fleet Replenishment Oilers. The new replacement oilers, currently designated as T-AO(X), will be double-hulled and meet Oil Pollution Act 1990 and International Marine Pollution Regulations. The lead ship is funded in 2016 with serial production beginning in 2018. The total ship quantity is planned to be 17 ships.

Beginning in 2016, the Navy will begin procurement of a combined Towing, Salvage, and Rescue (T-ATS) ship to replace the four T-ATF 166 class fleet tugs, which reach the end of their expected service lives starting in 2020, and the four T-ARS 50 class salvage ships, which reach the end of their expected service lives starting in 2025. The Navy appreciates the efforts of Congress to bolster the force structure and support the industrial base with the FY 2016 accelerated funding for T-ATS and ESB.

Surface Ship Modernization

The fiscal realities facing the Navy make it imperative that we modernize and extend the service lives of our in-service ships to meet the FSA requirements. The bulk of our current surface fleet was procured in the late 1980s and 1990s, and as such will reach the end of their service lives and retire at the same rate creating inventory shortfalls across the battle force. An important element of mitigation is the extension and modernization of our *Arleigh Burke* class DDGs, *Ticonderoga* class cruisers, and LSD 41/49 class amphibious ships.

The FY 2017 President's Budget includes funding for the modernization of two destroyers to sustain combat effectiveness, ensure mission relevancy and to achieve the full expected service lives of the AEGIS Fleet. The destroyer modernization program includes HM&E upgrades as well combat systems improvements with upgraded AEGIS weapons systems Advanced Capability Build (ACB) 12 to include open architecture computing environment, BMD capability, installation of the Evolved Sea Sparrow Missile (ESSM), integration of the SM-6 missile, and improved air dominance with processing upgrades and Naval Integrated Fire Control-Counter Air capability. This renovation reduces total ownership costs and expands mission capability for current and future combat capabilities.

Cruiser modernization ensures long-term capability and capacity for purpose-built Air Defense Commander (ADC) platforms. Eleven recently modernized CGs (CG 52 – CG 62) will perform the ADC function for deploying Carrier Strike Group while the Navy modernizes the newest eleven ships (CG 63 – CG 73). The newly modernized CGs will replace the first eleven CGs on a one-for-one basis as each older ship reaches the end of service life (35 years) starting in FY 2020. To date, the Navy has modernized CGs 52-58 with the ACB 08 Combat System as well as substantial HM&E upgrades, and completed modernization on CGs 59, 60, and 62 with the improved ACB 12.

In FY 2015, the Navy inducted the USS *Cowpens* (CG 63) and USS *Gettysburg* (CG 64) into modernization. The next two CGs, USS *Vicksburg* (CG 69) and USS *Chosin* (CG 65), will be inducted in FY 2016. The modernization for these four ships is being executed in accordance with congressional legislation and is utilizing funding from the Ships Modernization, Operations, and Sustainment Fund (SMOSF). The induction of these ships also greatly supports industrial base workload. For example, our ability to accelerate the USS *Gettysburg* (CG 64) modernization is helping to mitigate the significant workload valley in the Hampton Roads area during 2016.

The FY 2017 President's Budget requests \$521 million across the FYDP (in addition to current SMOSF funding) to support CG Modernization (\$183 million in FY 2017) and proposes a CG/LSD modernization plan within this funding profile that ensures the long term capability and capacity for ADC platforms. This plan will save \$3 billion over the FYDP compared to the current Congressionally mandated plan. The FY 2017 President's Budget supports the induction of an additional seven cruisers in FY 2017, phased to ensure completion, where applicable, of each ship's planned operational deployment prior to induction.

During modernization, costs avoided by minimizing manpower and operations and support provide a fiscal offset that partially funds the modernization itself. This plan paces the threat through the installation of the latest technological advances in combat systems and engineering and will provide the means to retain the best ADC and Marine expeditionary lift capabilities through the 2040s. The plan proposed in the FY 2017 budget provides significant cost savings within the FYDP, and Navy is fully committed to funding and completing modernization outside the FYDP. The Navy will continue to work with Congress to develop and evaluate funding options to mitigate the effects of the BBA and continue this vital modernization with adequate funding in FY 2017 and beyond.

Similarly, the Navy plans to perform the final *Whidbey Island* class midlife modernization as well as to extend two LSDs. This plan completes the HM&E midlife and modernizes combat systems, engineering and ship's control, satellite communications, computers, and intelligence gathering capability on USS *Tortuga* (LSD 46) extending expected service life from 35 to 44 years. LSD 46 was inducted into modernization in December 2015 and is scheduled to return to the Fleet in FY 2019. Additional post-midlife modernization is planned for USS *Whidbey Island* (LSD 41) and USS *Germantown* (LSD 42) to execute structural, engineering, and combat systems modernizations to extend their expected service life. LSD 41 is planned for induction into modernization in FY 2020.

Combat Systems

The Navy continues to field the most capable and lethal surface and submarine combat systems in the world. The combination of forward stationed and rotationally deployed AEGIS Baseline 9 cruisers and destroyers is a uniquely adaptable means to maintain global military presence while respecting the sovereignty of other nations. The forward presence of these large surface combatants provides an expansive range of options to influence events and project power

in peacetime, crisis and war. AEGIS Baseline 9 incorporates advances in technology and keeps pace with emerging threats using networked-based, commercial off-the-shelf computing system infrastructures to bring increased warfighting capabilities. The related AEGIS Common Source Library (CSL) enables software reuse and commonality across all modern AEGIS Combat System configurations: Air Defense Cruisers, IAMD Destroyers, New Construction IAMD Destroyers, and AEGIS Ashore.

To ensure the Navy maintains its defensive capability in the next decade and beyond, the Department is pursuing affordable defensive systems that are employable from multiple platforms. The use of spiral development has been utilized to acquire and field the newest surface ship electronic warfare systems. Under the Surface Electronic Warfare Improvement Program (SEWIP), we are replacing aging analog electronic warfare defensive systems first fielded in the early 1970's with new, digital systems. The first SEWIP program, Block 1, provides a digital backbone and highly sensitive receivers, while SEWIP Block 2 will add larger receivers to detect the current and projected future threats in the electromagnetic spectrum. These two spirals completed a highly successful deployment, aboard USS *Bainbridge* (DDG 96) in 2015. The SEWIP Block 3 program, entering its engineering and manufacturing development phase now, will add an active jamming system. Block 3 is currently on track to begin fielding in the 2019-2020 timeframe.

The Submarine community continues to successfully deliver improvements in Anti-Submarine Warfare utilizing a bi-annual spiral development model and leveraging Commercial-Off-The-Shelf (COTS) technologies via the Acoustic Rapid COTS Insertion (A-RCI) program. Developmental towed arrays with improved telemetry have been successfully fielded on deployed fast attack submarines and new contracts with these new telemetries will be awarded in FY 2016. Progress in development of the Large Vertical Array continues on track in support of the Acoustic Superiority program.

Surface Navy ASW is evolving to an active sonar approach to counter advanced submarine capabilities. The AN/SQQ-89(V) sonar system processes active and passive sensor data from the hull-mounted and towed arrays, and sonobuoys. We have installed over 30 SQQ-89 systems which include the multi-function towed array for extended passive detection. Additionally, the LCS ASW MP remains on track to achieve Initial Operational Capability (IOC) in FY 2018. LCS with the ASW MP is capable of detection and tracking of submarines at extended ranges via multiple convergence zones. The ASW MP leverages existing and fielded

technology, including a continuous active sonar/variable depth sonar (CAS/VDS), the multi-function towed array (MFTA), a command and control module, a torpedo defense module, and an aviation module.

Weapons

The Navy has made significant strides in extending the fleet's layered defense battle-space while also improving the capabilities of the individual ship defense layers in order to pace the increasing anti-ship missile threat. Standard Missile-6 (SM-6) provides theater and high value target area defense for the fleet and with integrated fire control has more than doubled defensive battle-space. SM-6 testing between March 2015 and January 2016 achieved maximum range, reliability and multi-mission capability goals. The Evolved Sea Sparrow Missile (ESSM) program awarded the Block 2 Engineering Manufacturing and Development contract in 2015, which will leverage the SM-6 active guidance section architecture to improve ship self-defense performance against stressing threats and environments. Rolling Airframe Missile (RAM) Block 2 achieved IOC in May 2015, providing improved terminal ship defense through higher maneuverability and improved threat detection.

The FY 2017 President's budget includes funding to upgrade the Standard Missile-2 (SM-2) inventory with active guidance. This investment provides an affordable, integrated fire control capable, area defense missile to counter stressing threats. (Potential \$2 billion savings compared to filling the entire area defense inventory needs with the SM-6 Block 1A missiles.)

Affordability continues to be a focus for weapons. International cooperation on ESSM and RAM results in our allies sharing 50 percent or more of the program costs. By leveraging investment in previous designs, the Navy's development, production, and maintenance costs are reduced. The increased capabilities inherent in these new designs can also support the use of these weapons in additional roles thereby creating multi-mission weapons from existing designs. The FY 2017 President's Budget provides the funds required for these critical activities.

The Department's Cruise Missile Strategy is fully funded in the PB17 budget submission. Developmental and sustaining efforts of this strategy include: support of Tomahawk Land Attack Block III and Tactical Tomahawk (TACTOM) Block IV through anticipated service lives; integration of modernization and obsolescence upgrades to TACTCOM during a mid-life recertification program (which adds 15-years of additional missile service life), fielding of the Long Range Anti-Ship Missile (LRASM) as the Offensive Anti-Surface Warfare (OASuW)

Increment 1 material solution to meet near to mid-term threats, and development of follow-on Next Generation Strike Capability (NGSC) weapons to address future threats and to replace or update legacy weapons, while bringing next generation technologies into the Navy's standoff conventional strike capabilities. NGSC will address both the OASuW Increment 2 capabilities to counter long-term anti-surface warfare threats, and the Next Generation Land Attack Weapon (NGLAW) to initially complement, and then replace, current land attack cruise missile weapon systems.

Tomahawk provides an attack capability against fixed and mobile targets and can be launched from both surface ships and submarines. The current variant's, TACTOM, improvements include in-flight retargeting, the ability to loiter over the battlefield, in-flight missile health and status monitoring, and battle damage indication imagery, providing a digital look-down "snapshot" of the battlefield via a satellite data link. As part of our distributed lethality plan, the Navy will also commence development of an all-weather seeker into the Block IV Tomahawk weapon system.

The FY 2017 budget request supports the completion of technology maturation and initiation of integration and test of the air-launched OASuW/Increment 1 program and procurement of the initial All-Up-Round weapons. Increment 1 provides Combatant Commanders the ability to conduct ASuW operations against high value surface combatants and denies adversaries the sanctuary of maneuver. The program has completed transition from Defense Advanced Research Projects Agency to Navy leadership and is scheduled to field on the B-1 by the end of FY 2018 and F/A-18E/F by the end of FY 2019.

To ensure Navy maintains its strike capability in the next decade and beyond, the Department is pursuing an overarching NGSC strategy to develop a family of more lethal, survivable, and affordable multi-mission standoff weapons employable from multiple platforms. The family of NGSC weapons will be capable of attacking land and maritime, stationary and mobile targets while supporting two of the Navy's primary mission areas: power projection (land attack from the air/sea/undersea) and sea control against enemy surface action groups and other combatants (ASuW). To the maximum extent possible, the Navy plans to utilize common components and component technologies (e.g. navigation, communications, seeker, guidance and control) to reduce cost, shorten development timelines, and promote interoperability. Based on performance requirements and launch parameters, it is likely the missile airframes and propulsion systems will differ between the air-launched and sea-launched weapons. The

NGLAW is planned as the follow-on surface/sub-surface launched long-range strike capability to address the 2028 (and beyond) land attack and ASuW threats and gaps. NGLAW is envisioned to complement, and then eventually replace, the Tomahawk Weapon System, which will be operational until the mid-late 2040s. OASuW Increment 2 is planned to address the long-term air-launched anti-surface warfare requirements for employment within advanced anti-access environments.

Affordability and the Shipbuilding Industrial Base

Stability and predictability are critical to the health and sustainment of the Nation's shipbuilding and combat systems industrial base. A healthy design and production industrial base is critical to achieving Department priorities and fulfilling Navy near term and long term needs. The shipbuilding industry, with its interdependent suppliers and vendors, is a complex system where today's decisions have a cascading effect both in the near-term and the future. Perturbations in naval ship design and construction plans are significant because of the long-lead time, specialized skills, and extent of integration needed to build military ships. Each ship is a significant fraction of not only the Navy's shipbuilding budget, but also industry's workload and regional employment. Consequently, the timing of ship procurements is a critical matter to the health and sustainment of U.S. shipbuilding and combat system industries, and has economic impacts at the regional and local levels. It is important, therefore, for the Department to provide stability and predictability to the industrial base, including key suppliers and vendors, to maintain our ability to continue to build the future Fleet as outlined in the long range shipbuilding plan.

While top-line budget reductions impose significant challenges and result in some uncertainty for portions of the industry, the Navy is committed to identifying and implementing solutions to stabilize and maintain the base. The Navy will continue to take prudent actions to contain and reduce costs, foster efficiency and sustain the industrial base. Key to cost containment and reduction is the implementation of innovative acquisition strategies that stabilize ship construction workload while maximizing competition within the industrial base. Just as vital for cost reduction is a focus on product design to include initiatives such as design for affordability and modularity, incorporation of combat system open architecture, design and ship specification stability, and strict control over change orders. Improved material management and selection, utilization of Economic Order Quantities and the pursuit of cross-program

common equipment buys further cost containment and reduction objectives. To foster efficiency, the Navy will continue to make investments to support shipyard facility improvements and the development of optimal build plans which support current and future ship construction.

In support of industrial base sustainment as well as cost reduction, the Navy will continue to stabilize procurements through utilization of block buys and Multi Year Procurements. Additionally, we will consider judicious use of Advance Procurement to bridge production gaps and sustain the vendor base while at the same time mitigating material risk and improving program schedule and cost performance. Navy support of shipbuilding capability preservation agreements and build strategies (such as SUBS) will also provide stability and improve potential for cost reductions. In addition to improving affordability in procurement, these strategies minimize life-cycle costs, improve and ensure quality products, facilitate effective and efficient processes, and promote competition - which all support Department priorities.

Naval Aviation

In support of the Vision for Naval Aviation 2025, the FY 2017 President's Budget supports integrated warfare at sea and from the sea with the construction of *Ford* class carriers, LX(R) amphibious ships, the Joint Strike Fighter (JSF), the E-2D, P-8A and development of unmanned aircraft. Furthermore, the Navy continues to fund new capabilities in the electromagnetic spectrum, missile kinematics, and aircraft system upgrades that will sustain U.S. maritime dominance.

Airborne Early Warning Aircraft

The E-2D Advanced Hawkeye (AHE) is the Navy's carrier-based Airborne Early Warning and Battle Management Command and Control system. The E-2D AHE provides Theater Air and Missile Defense and is capable of synthesizing information from multiple onboard and off-board sensors, making complex tactical decisions and then disseminating actionable information to Joint Forces in a distributed, open-architecture environment. E-2D is also a cornerstone of the Naval Integrated Fire Control – Counter Air (NIFC-CA) system of systems capability. Utilizing the newly developed AN/APY-9 Mechanical/Electronic Scan Array radar and the Cooperative Engagement Capability (CEC) system, the E-2D AHE works in concert with tactical aircraft and surface-combatants equipped with the AEGIS combat system to

detect, track and defeat air and cruise missile threats at extended ranges. IOC was achieved in October 2014 and VAW-125 accomplished the first Fleet Squadron Deployment during March 2015 through November 2015.

The FY 2017 President's Budget requests funding for continued development to include: Aerial Refueling, Tactical Targeting Network Technology (TTNT), Secret Internet Protocol Router chat, Advanced Mid-Term Interoperability Improvement Program, Multifunctional Information Distribution System/Joint Tactical Radio System, Counter Electronic Attack, Sensor Netting, Data Fusion, Fighter to Fighter Backlink, and Electronic Support and Crypto Modernization/Frequency Remapping. Additionally, the FY 2017 budget requests procurement funding for six aircraft and Advance Procurement for FY 2018 aircraft in conjunction with the existing 2014-2018 MYP contract.

Maritime Patrol Aircraft

The P-8A Poseidon recapitalizes the Maritime Patrol ASW, ASuW and armed ISR capability currently resident in the P-3C Orion. The P-8A combines the proven reliability of the commercial 737 airframe with avionics that enables integration of modern sensors and robust communications. The P-8A's first operational deployment was completed in June 2014, and continuous 7th Fleet operational deployments are underway. As of December 2015, five Fleet squadrons have completed transition to P-8A and a sixth is underway. All Fleet squadrons are scheduled to complete transition by the end of FY 2019. The P-8A program is meeting all cost, schedule and performance parameters in accordance with the approved Acquisition Program Baseline. The aging P-3 Orion fleet will continue to provide critical ASW, ASuW and ISR support for joint and naval operations worldwide until the Fleet completes transition to P-8A.

The EP-3E Aries is the Navy's premier manned Maritime Intelligence, Surveillance, Reconnaissance, and Targeting (MISR&T) platform. The Joint Airborne Signals intelligence (SIGINT) Common Configuration includes Multi-Intelligence sensors, robust communication, and data links employed by the flexible and dependable P-3 air vehicle to ensure effective MISR&T support across the full Range of Military Operations. The FY 2011 National Defense Authorization Act directed Navy to sustain EP-3E airframe and mission systems relevance to minimize SIGINT capability gaps until the systems are fully recapitalized with a platform or family of platforms that in the aggregate provide equal or better capability and capacity. The FY

2017 request procures 47 P-8As over the FYDP and maintains the EP-3E retirement dates in FY 2020.

Fixed Wing Aircraft

Fielded throughout our active force, the KC-130J brings increased capability, performance and survivability with lower operating and sustainment costs to the MAGTF. Forward deployed in support of ongoing operations since 2005, the KC-130J continues to deliver Marines, fuel and cargo whenever and wherever needed. In 2016, the KC-130J remains in high demand, providing tactical air-to-air refueling, assault support, Close Air Support (CAS) and Multi-sensor Imagery Reconnaissance (MIR) capabilities, in support of Special Purpose MAGTFs and deployed MEUs.

The Navy implemented plans to procure two KC-130Js per year starting in FY2016 and to continue product improvements. Targeted improvements include aircraft survivability through advanced electronic countermeasure modernization and obsolescence upgrades to the Harvest HAWK ISR/Weapon Mission Kit.

The Marine Corps has funded 65 of the 79 KC-130J aircraft through FYDP. The three aircraft included in the FY 2013 budget would have completed the Active Component (AC) requirement of 51 aircraft. However, the Marine Corps began using the AC backup aircraft to accelerate the Reserve Component (RC) transition from the legacy KC-130T aircraft to the more capable and efficient KC-130J in FY2014. The aircraft requested in the FY2017 President's Budget will continue to increase KC-130J inventory as we strive to achieve Full Operational Capability in the RC. Delays in procurement would force the Marine Corps to sustain the KC-130T aircraft longer than planned at an increased cost.

Expeditionary Warfare

The Navy/Marine Corps team provides the Combatant Commanders and our Nation the options needed to engage with our partners, to deter our adversaries and, when needed, to fight and win. That capability is underpinned by our disciplined, well-trained and motivated Sailors and Marines equipped with the amphibious ships, aircraft and weapons in our arsenal. Unique to our expeditionary warfare capabilities, is the ability to maneuver ashore and force entry once there. That ability is provided through the combination of connectors to move the ground force

from the sea base to the ashore objective and the organic capability of the ground force to maneuver and fight ashore.

Connectors

The Seabasing Joint Integrated Concept requires surface and vertical lift capability to transport personnel, supplies and equipment from within the seabase and maneuver them to objectives ashore. Surface and aviation connectors with enhanced speed and range will provide future expeditionary force commanders greater flexibility to operate in contested environments. While the aviation component of our connector capability has seen significant modernization with the fielding of the MV-22 and continuation of the CH-53K program, our primary surface connectors, the Landing Craft Air-Cushion (LCAC) and the Landing Craft Utility (LCU) are reaching the end of their service lives and require modern replacements.

The President's FY 2017 requests \$128 million for new Ship to Shore Connector (SSC) air cushioned vehicles and additional funding across the FYDP for procurement. The SSC is the replacement for the aging LCACs which have undergone service life extension programs (SLEP) and a Post SLEP sustainment program to mitigate the gap as the SSC is developed and fielded. Additionally, funding was provided in FY 2016 to accelerate the procurement of the LCU-1700 Program (formerly known as the Surface Connector (X)-Recapitalization (SC(X)) program), which is planned to recapitalize the aging LCU 1610 class.

These platforms are essential in connecting the combat power and logistical sustainment that the sea base provides, with the forces that are operating in the littorals and inland for all missions. The Department will continue to explore future connector options that will increase our ability to exploit the sea as maneuver space by increasing range, speed, and capacity.

Ground Forces

The focus of our ground modernization efforts continues to be our ground combat and tactical vehicle (GCTV) portfolio, along with the Command and Control (C2) systems needed to leverage the entire MAGTF once ashore.

Ground Combat and Tactical Vehicles (GCTV)

The Marine Corps GCTV portfolio modernization programs account for approximately 50 percent of the Marine Corps ground modernization investment. The overarching priority within the GCTV portfolio is the replacement of the legacy Amphibious Assault Vehicle (AAV)

with modern armored personnel carriers (APCs) through a combination of complementary systems. The Amphibious Combat Vehicle (ACV) program is the Marine Corps' highest ground modernization priority and will use an evolutionary, incremental approach to replace the aging AAVs with a vehicle that is capable of moving Marines ashore, initially with surface connectors and ultimately as a self-deploying vehicle. ACV consists of two increments, ACV 1.1 and ACV 1.2. Increment 1.1 will field a personnel carrier with technologies that are currently mature. Increment 1.2 will improve upon the threshold mobility characteristics of ACV 1.1 and deliver C2 and recovery and maintenance mission role variants.

ACV Phase 1.1 modernizes 2 of our 10 amphibious vehicle companies. The AAV Survivability Upgrade Program (SUP) improves AAV capability in four of the 10 companies, in order to support MEU deployments and when globally sourced, provide the essential capacity necessary for the assault echelons of two MEBs. ACV Phase 1.2 will modernize the remaining four of 10 companies. This combination of a modern amphibious armored personnel carrier alongside the improved AAV generates a complementary set of capabilities to meet general support lift capability and capacity requirements of our Ground Combat Element.

In parallel with these modernization efforts, a science and technology portfolio is being developed to explore a range of high water speed technology approaches to provide for an affordable, phased modernization of legacy capability to enable extended range littoral maneuver. These efforts will develop the knowledge necessary to reach an informed decision point in the mid-2020s on the feasibility, affordability, and options for developing a high water speed capability for maneuver from ship-to-shore.

The second highest priority within the portfolio remains the replacement of a portion of the high mobility, multi-purpose, wheeled vehicle (HMMWV) fleet that is most at risk; those trucks that perform a combat function and are typically exposed to enemy fires. In partnership with the Army, the Marine Corps has sequenced the Joint Light Tactical Vehicle (JLTV) program to ensure affordability of the entire GCTV portfolio while replacing about one third (5,500 vehicles) of the legacy HMMWV fleet with modern tactical trucks prior to the fielding of ACV 1.1.

Amphibious Combat Vehicle 1.1

The ACV 1.1 program successfully leveraged technology demonstrations and competitive prototyping to create a set of realistic requirements that are achievable with a non-

developmental vehicle. Market research and extensive discussions with industry confirmed that requirements could be met with low-risk, affordable solutions. The use of demonstrated mature technologies and stable requirements reduced technical risk and allowed foregoing the Technology Maturation and Risk Reduction (TMRR) phase, accelerating IOC. The condensed EMD phase will focus on manufacturing and testing rather than system design. An acquisition strategy including affordability constraints and competition through to LRIP will continue to ensure affordability. An extensive test and evaluation phase will begin upon delivery of the 16 prototype vehicles per contractor in FY 2017. The acquisition objective (AO) of 204 vehicles will provide lift for two infantry battalions and will achieve IOC in FY 2020. The aggressive acquisition schedule for ACV 1.1 requires full funding and support from Congress. This budget includes \$158.7 million in RDT&E for the ACV program.

AAV Survivability Upgrade Program (AAV SUP)

AAV SUP is a well-defined program to increase the capability of the current vehicle by providing force protection upgrades to counter current and emerging threats to the underside of the vehicle. Specifically, the program will provide improved armor, spall liners, blast mitigating seats and protected fuel storage. These improved AAVs will play an essential role in facilitating ship-to-shore mobility until replaced via a future phase of the ACV program. FY 2017 funding supports continuation of the EMD phase and associated prototype testing. The AO for the program is 392 vehicles with IOC in FY 2019. This budget includes \$38.0 million in RDT&E and \$73.8 million in PMC for the AAV SUP.

Joint Light Tactical Vehicle (JLTV)

The Department remains firmly partnered with the U.S. Army in fielding a JLTV that lives up to its name, while also being affordable. JLTV will deliver a modern reliable truck with M-ATV protection and unarmored HMMWV land mobility and transportability performance to begin replacing the highest risk portions of our light fleet in 2018. The JLTV has effectively controlled ownership costs by maximizing commonality, reliability, and fuel efficiency, while achieving additional savings through effective competition in all stages of program execution. With a production contract for both LRIP and Full Rate Production options awarded in 2015, funding requested in this budget will support test and evaluation, technical, and logistical

activities. This budget includes \$23.2 million in RDT&E and \$113.2 million in PMC for the USMC portion of JLTV.

Ground Force Command and Control

Critical to the success ashore of the MAGTF is our ability to coordinate and synchronize our distributed C2 sensors and systems. Our modernization priorities in this area are the Ground/Air task Oriented radar (G/ATOR) and the Common Aviation Command and Control System (CAC2S) Increment I. These systems will provide modern, interoperable technologies to support real-time surveillance, detection and targeting and the common C2 suite to enable the effective employment of that and other sensors and C2 suites across the MAGTF.

Ground/Air Task Oriented Radar (G/ATOR)

G/ATOR will support air defense, air surveillance, counter-battery/target acquisition, and aviation radar tactical enhancements; the final evolution will also support the Marine Corps air traffic control mission. G/ATOR Block 1 provides air defense and air surveillance capability, achieved Milestone C in 2014 and is currently in production (LRIP). G/ATOR Block 2 provides counter-battery/target acquisition and is in the EMD phase of acquisition. Funding in this budget (\$83.5 million in RDT&E) supports the continued development of G/ATOR Block 2, transition to Gallium Nitride module technology, and procurement funding (\$135 million) supporting three G/ATOR Block 2 systems.

Common Aviation Command and Control System (CAC2S)

Phase I Limited Deployment Capability was achieved second Quarter FY 2012 and the initial fielding was complete during fourth Quarter FY 2013. Phase 2 addresses the remaining Air Combat Element Battle Management and C2 requirements. Phase 2 achieved a successful Milestone C in FY 2015. IOT&E of the Phase 2 system is scheduled for the third quarter of FY 2016 with fielding to begin in FY 2017. The approved AO is 50 systems. This budget includes \$11.8 million for RDT&E and \$47.4 million in PMC.

Other Ground Programs

Individual Marines are the foundation of the Marine Corps, the MAGTF and our expeditionary capability. In addition to the major programs described above, this budget supports the continued delivery of required warfighting capabilities to our individual Marines

and our flexible MAGTF structure in a timely and affordable manner. The Marine Corps continues to invest in the weapons, individual protective equipment, tactical radios, training systems, and information technology necessary to ensure an effective and efficient fighting force and keep faith with our commitment to those individual Marines who shoulder the burden and privilege of being America's expeditionary force in readiness.

Unmanned Systems

The Department of the Navy has placed a priority on the development of unmanned systems leading to a fully integrated manned and unmanned fleet. Unmanned technology will not replace our Sailors and Marines, instead it will unlock their full potential as we integrate this technology with our total forces.

Currently, our warfare communities - air, sea, undersea and ground - are all doing superb work in unmanned systems and integrating them into the existing architecture within their own framework, but as this technology becomes more complex and widespread, ensuring we have a cohesive management function is critical to maintaining our superiority across all domains, and possibly even multiple domains.

To meet the demand for persistent, multi-role ISR capability, the Navy and Marine Corps are building a balanced portfolio of manned and unmanned aircraft focused on missions in the maritime environment. The RAQ-25, a restructured variant of the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) program, will enhance carrier capability and versatility for the Joint Forces Commander through integration of a persistent, sea-based, multi-mission aerial refueling and reconnaissance Unmanned Aircraft System (UAS) into the Carrier Air Wing (CVW). The RAQ-25 system is envisioned to be an integral part of the future CVW; its robust organic refueling and long-endurance ISR capability, coupled with future limited precision strike, is core to the CVW of the future. The majority of the previous UCLASS data and all ongoing work will directly translate to the RAQ-25 program. Ongoing Carrier modifications to prepare Mission Control Spaces and integrate UCLASS architecture will be leveraged for RAQ-25, as will the Control System and Connectivity segment and the Common Control System programs currently in development. RAQ-25 significantly extends CVW mission effectiveness range, addresses the current Carrier Strike Group organic ISR shortfall and future CVW-tanker gap, and offloads the tanking mission from the F/A-18E/F to help mitigate the naval Strike Fighter shortfall. As the first carrier-based, Group 5 UAS, RAQ-25 will pioneer

the integration of manned and unmanned operations, mature complex sea-based refueling and C4I UAS technologies and pave the way for more multifaceted multi-mission UAS to pace emerging threats. The Navy is proceeding with formal requirements definition and related specifications development for the RAQ-25 system while continuing to leverage the robust competitive industry that has participated in UCLASS Preliminary Design, in order to further advance the RAQ-25 design concept and reduce technical risk inherent to this first of type carrier-based UAS capability.

The MQ-4C Triton is a key component of the Navy Maritime Patrol Reconnaissance Force. Its persistent sensor dwell, combined with networked sensors, will enable it to effectively meet ISR requirements in support of the Navy Maritime Strategy. The Navy currently maintains an inventory of four USAF Global Hawk Block 10 UAS, as part of the Broad Area Maritime Surveillance Demonstration program. These aircraft, which have been deployed to CENTCOM's AOR for over seven years, have achieved over 18,000 flight hours in support of CENTCOM ISR tasking and are adequate to cover all Navy needs through FY 2018.

Triton will commence the first of five globally-distributed, persistent maritime ISR orbits beginning in FY 2018, as part of the Navy's Maritime ISR&T transition plan. MQ-4C Triton test vehicles have completed 53 total flights as of January 2016 and are continuing sensor flight testing. An Operational Assessment was completed in December 2015 in support of Milestone C, planned for FY 2016. The FY 2017 President's Budget requests \$405 million in RDT&E,N to continue Triton development activities and \$579.2 million of Aircraft Procurement, Navy for procurement of the second lot of LRIP aircraft and spares and for procurement of long lead materials for the first lot of Full Rate Production aircraft.

The MQ-8 Fire Scout is an autonomous ship-based, vertical take-off unmanned air system that includes two airframe types, the MQ-8B and MQ-8C. The MQ-8C is a larger, more capable and more cost-effective airframe that uses the same ground control station, avionics and payloads as the MQ-8B. The systems are designed to operate from any suitably-equipped air-capable ship, carry modular mission payloads, and operate using the Tactical Control System and Line-Of-Sight Tactical Common Data Link.

The MQ-8B has completed ten operational deployments and flown more than 15,000 operational hours, including: deployments to Afghanistan from May 2011 until August 2013 for more than 5,100 dedicated ISR flight hours in support of U.S. and coalition forces; more than 8,100 hours on Navy Frigates; and 130 hours aboard Littoral Combat Ships performing more

than 2,000 autonomous ship board take-offs and landings in support of Special Operations Forces and Navy operations. The MQ-8B is deployed today with HSM-35 in a composite aviation detachment with a MH-60R on USS Fort Worth (LCS-3), and will deploy with a maritime search radar capability this Fiscal Year. Integration with the Coastal Battlefield Reconnaissance and Analysis MCM capability with the MQ-8B airframe is underway.

The MQ-8C Fire Scout has flown more than 745 flight hours conducting developmental testing, and completed 84.2 flight hours during its successful completion of a land based Operational Assessment in the first quarter of FY 2016. IOC is planned for 1st Quarter FY 2018. The Navy is executing efforts for integration of a radar capability into the MQ-8C, and is planning to integrate the Advance Precision Kill Weapon System II (APKWS II) and MCM payloads. The Fire Scout program will continue to support integration and testing for LCS-based mission modules.

The FY 2017 President's Budget requests \$26.5 million of RDT&E,N to continue development of the MQ-8C endurance upgrade, to include integration of ISR payloads and radar, and studies for future payloads such as short range air to surface weapons and mine counter measures. Funding will also be used to continue payload and LCS/FF integration with the MQ-8B and MQ-8C. Procurement funding (\$91 million) is requested for one MQ-8C air vehicle, one MQ-8 mission control system, ancillary, trainers and support equipment, technical support, modifications based on engineering changes and logistics products and support to outfit suitably-equipped air-capable ships and train the associated Aviation Detachments.

The Small Tactical Unmanned Aircraft System (STUAS) RQ-21A Blackjack program is a UAS that provides full motion video, communications relay package and automatic identification systems. The air vehicle's payload bay allows for rapid deployment of signal intelligence payloads. The Marine Corps is actively pursuing technological developments for the RQ-21A system in an effort to provide the MAGTF and Marine Corps Forces Special Operations Command with significantly improved capabilities. Initiatives include over-the-horizon communication and data relay ability to integrate the system into future networked digital environments; electronic warfare and cyber payloads to increase non-kinetic capabilities; and change detection radar and moving target indicators to assist warfighters in battlespace awareness and force application.

The FY 2017 President's Budget requests funding for four Navy systems to support Naval Special Warfare; and for four RQ-21A systems (which includes 20 air vehicles) to address

Marine Corps ISR capability requirements currently supported by service contracts. Blackjack entered LRIP in 2013, completed IOT&E in the second quarter of FY 2015, with Full Rate Production planned for the fourth quarter of FY 2016.

The FY 2017 President's Budget also requests in RDT&E,N funding for the continued development of the Common Control System (CCS). The primary mission of the CCS is to provide common control across the Navy's unmanned systems portfolio to add scalable and adaptable warfighting capability, implement robust cybersecurity attributes, leverage existing government owned products, eliminate redundant software development efforts, consolidate product support, encourage innovation, improve cost control, and enable rapid integration of unmanned systems capabilities across all domains: Air, Surface, Sub-Surface, and Ground. CCS uses an open and modular business model and is being developed as Government Furnished Information/Equipment for the RAQ-25 program and for follow-on use with Triton and Fire Scout.

Autonomous Undersea Vehicles (AUV) are a key component of the Navy's effort to expand undersea superiority. These unmanned vehicles operate independently from or in cooperation with manned vehicles, conducting maritime missions such as ISR, Seabed Warfare, and Deception. AUVs and undersea fixed systems will operate in areas that are inaccessible to manned submarines and ships.

Dozens of AUVs are conducting sea sensing and mine countermeasure tasks today with human-in-the-loop supervision. Developmental work to expand AUV endurance, autonomy, and sensor/payload capability will eventually enable AUVs to operate for days or weeks with minimal human interaction needed to ensure successful task completion. While nominal force structure requirements for FY 2025 have not been determined, the Navy is committed to growing both the size and composition of the AUV force. In the near-term, AUVs present an opportunity to increase undersea superiority and offset the efforts of our adversaries.

The Large Displacement Unmanned Underwater Vehicle (LDUUV) is an unmanned undersea vehicle to offload "dull, dirty, dangerous" missions from manned platforms & mitigate the submarine gap beginning in 2022. LDUUV will be launched from a variety of platforms, including both surface ships and submarines. The craft's missions will include ISR, acoustic surveillance, ASW, MCM, and offensive operations.

The Surface Mine Countermeasure Unmanned Undersea Vehicle (SMCM UUV) commonly referred to as Knifefish employs a low frequency broadband synthetic aperture sonar.

Knifefish simultaneously detects volume and buried mines in high clutter environments.
Knifefish is planned for incorporation into Increment 4 of the LCS MCM MP.

The Honorable Sean J. Stackley
Assistant Secretary of the Navy
(Research, Development and Acquisition)
7/28/2008 - Present

Sean J. Stackley assumed the duties of assistant secretary of the Navy (ASN) (Research, Development & Acquisition (RDA)) following his confirmation by the Senate in July 2008. As the Navy's acquisition executive, Mr. Stackley is responsible for the research, development and acquisition of Navy and Marine Corps platforms and warfare systems which includes oversight of more than 100,000 people and an annual budget in excess of \$50 billion.

Prior to his appointment to ASN (RDA), Mr. Stackley served as a professional staff member of the Senate Armed Services Committee. During his tenure with the Committee, he was responsible for overseeing Navy and Marine Corps programs, U.S. Transportation Command matters and related policy for the Seapower Subcommittee. He also advised on Navy and Marine Corps operations & maintenance, science & technology and acquisition policy.

Mr. Stackley began his career as a Navy surface warfare officer, serving in engineering and combat systems assignments aboard USS John Young (DD 973). Upon completing his warfare qualifications, he was designated as an engineering duty officer and served in a series of industrial, fleet, program office and headquarters assignments in ship design and construction, maintenance, logistics and acquisition policy.

From 2001 to 2005, Mr. Stackley served as the Navy's LPD 17 program manager, with responsibility for all aspects of procurement for this major ship program. Having served earlier in his career as production officer for the USS Arleigh Burke (DDG 51) and project Naval architect overseeing structural design for the Canadian Patrol Frigate, HMCS Halifax (FFH 330), he had the unique experience of having performed a principal role in the design, construction, test and delivery of three first-of-class warships.

Mr. Stackley was commissioned and graduated with distinction from the United States Naval Academy in 1979, with a Bachelor of Science in Mechanical Engineering. He holds the degrees of Ocean Engineer and Master of Science, Mechanical Engineering from the Massachusetts Institute of Technology. Mr. Stackley earned certification as professional engineer, Commonwealth of Virginia, in 1994.

Updated: 14 January 2011

Vice Admiral Joseph P. Mulloy
United States Navy
Deputy Chief of Naval Operations,
Integration of Capabilities and Resources

Born in New York City, Vice Admiral Joseph Mulloy grew up moving about America as the son of a naval officer. He graduated with distinction from the U.S. Naval Academy in 1979 with a Bachelor of Science degree in Marine Engineering. He also attended Harvard Graduate School of Business, graduating in 1987 with a Master of Business Administration.

His operational submarine assignments were aboard USS Trepang (SSN 674), PCU Miami (SSN 755) as engineer officer, USS Puffer (SSN 652) as executive officer. He served as commanding officer of USS San Juan (SSN 751) and commander Submarine Squadron 15 in Apra Harbor, Guam. In addition to the normal SSN deployments, Mulloy has twice deployed to the Arctic and has surfaced at the North Pole.

Mulloy's significant shore assignments include tours as Plans and Briefing officer and the Special Operations assistant to the Special Operations Division of the Office of Naval Intelligence (ONI-009G), Financial officer at the Pentagon in Operations Division, Office of Budget and Reports (NAVCOMPT), deputy commander of Submarine Squadron 4, executive assistant to the director, Submarine Warfare Division for the Deputy Chief of Naval Operations (DCNO N7/N8), Division chief of the Program, Budget and Analysis Division (PBAD) for Chairman of Joint Chiefs (JCS J8). Mulloy's first flag assignment was as deputy chief of staff for Plans, Policies and Requirements, U.S. Pacific Fleet (N5N8), followed by a short tour as director, Programming Division, OPNAV (N80). Mulloy's most recent assignment was as the deputy assistant secretary of the Navy for Budget (FMB) / Director, Fiscal Management Division, OPNAV (N82) from October 2009 to December 2013.

Mulloy is currently assigned as Deputy Chief of Naval Operations, Integration of Capabilities and Resources (OPNAV N8) in Washington, D.C.

Mulloy's personal decorations include the Navy Distinguished Service Medal, Defense Superior Service Medal (two awards), Legion of Merit (three awards), Meritorious Service Medal (four awards), the Navy and Marine Corps Commendation Medal (three awards), and the Navy and Marine Corps Achievement Medal (two awards).

Lieutenant General Robert S. Walsh
Commanding General, Marine Corps Combat Development Command, and
Deputy Commandant, Combat Development and Integration

Lieutenant General Walsh was commissioned a Second Lieutenant from the United States Naval Academy in May 1979. After completing The Basic School he was assigned as an infantry platoon commander in 1st Battalion, 7th Marines. He reported to Pensacola, FL for flight training and was designated a Naval Aviator in October 1981. Upon completion of an assignment to VT-26 as a Selectively Retained Graduate and the F-4 training syllabus he was ordered to VMFA-115 at Marine Corps Air Station Beaufort, SC in November 1983.

While in VMFA-115 he transitioned to the F/A-18 Hornet, attended the U.S. Navy Fighter Weapons School, and made two deployments before assuming duties as a flight instructor at TOPGUN in 1987. He returned to MCAS Beaufort in January 1990 and was assigned to VMFA-251, making two WSTPAC deployments, and was selected as the 1st Marine Aircraft Wing Aviator of the Year.

In July 1993, he reported to the 9th Marine Regiment as the Air Officer. He attended the Air Command and Staff College at Maxwell AFB before reporting to Headquarters, U.S. European Command, Stuttgart, Germany in 1995 where he served in the Plans and Policy Directorate. In 1998, he returned to MCAS Beaufort for a third tour in Marine Aircraft Group 31 where he served as the Commanding Officer of VMFA-115 and deployed to both the European and Western Pacific Theaters.

He graduated from the National War College in Washington D.C. in June 2002 with a Masters of Science in National Security Strategy. From there he reported to Headquarters, U.S. Marine Corps, where he served in the Aviation Department. After his Branch head tour, Lieutenant General Walsh returned to MCAS Beaufort as the Commanding Officer of Marine Aircraft Group 31 from June 2004 to May 2006.

Following command, he returned to Headquarters, U.S. Marine Corps, as the Assistant Deputy Commandant for Aviation. In May 2008, Lieutenant General Walsh became the Commanding General of the 2d Marine Aircraft Wing and deployed to Operation Iraqi Freedom 09 as the Commanding General of the 2d Marine Aircraft Wing (Forward). In August 2010 he assumed the duties as the Director of Operations, United States Northern Command. In June 2012 he became the Deputy Commanding General, Marine Corps Combat Development Command.

In July 2013, Lieutenant General Walsh assumed duties as Director, Expeditionary Warfare Division for the Chief of Naval Operations. In August 2015, Lieutenant General Walsh became the Commanding General, Marine Corps Combat Development Command; Commander, Marine Corps Forces Strategic Command, and the Deputy Commandant for Combat Development and Integration.

**WITNESS RESPONSES TO QUESTIONS ASKED DURING
THE HEARING**

FEBRUARY 25, 2016

RESPONSE TO QUESTION SUBMITTED BY MR. CONAWAY

Secretary STACKLEY. Defense Logistics Agency (DLA) Energy's September 2015 alternative fuel contract award fully complied with applicable law, including the Fiscal Year (FY) 2015 National Defense Authorization Act (NDAA). While the FY 2016 NDAA was not signed into law until November 25, 2015, DLA Energy's award was also compliant with its requirements.

The law requires that the fully burdened cost of alternative fuel purchased for operational purposes be cost competitive with the fully burdened cost of traditional fuel. That determination of cost competitiveness is made by DLA, not by the Department of the Navy or the U.S. Department of Agriculture (USDA).

DLA Energy's April 2015 Rocky Mountain West Coast (RMWC) bulk fuel solicitation stipulated that alternative fuel producers who used U.S. agricultural feedstocks might be eligible for up to \$0.25 per gallon in USDA Commodity Credit Corporation (CCC) funding.

In September 2015, DLA issued a contract award to AltAir to supply a total of 77.6 million gallons of F-76 containing a blend of 10 percent alternative fuel and 90 percent traditional fuel. The amount paid by the Department of Defense for the AltAir fuel blend is approximately \$2.04 (\$2.00 per gallon to AltAir for the fuel blend plus \$0.04 per gallon for transportation of the fuel). AltAir qualified for just under \$0.16 per gallon in USDA CCC funding.

To determine cost-competitiveness, DLA compared the alternative fuel blend offered by AltAir with traditional fuel offers for both the 2015 and 2014 RMWC solicitations. AltAir's offer was not reduced or otherwise lowered by the amount that would be paid with CCC funds. Rather, DLA's cost competitiveness analysis considered the full \$0.16 per gallon in CCC funding. [See page 24.]

RESPONSE TO QUESTION SUBMITTED BY MR. LANGEVIN

Secretary STACKLEY. Directed Energy (High Energy Laser [HEL] and High Power Radio Frequency [HPRF]) Weapon Systems offer significant potential benefit to the Department of the Navy's warfighting capability and will complement traditional kinetic weapons (such as guns and missiles) in a layered defense scheme. Much has been learned from the Navy's design, development, deployment, and operation of the Laser Weapon System (LaWS) onboard USS PONCE. Lessons learned from the LaWS deployment feed the Solid State Laser Technology Maturation (SSL-TM) development; which will design, build, test, and demonstrate a 150-kW Laser Weapon System Demonstrator that will mature component technologies of the laser system and subsystems. SSL-TM is scheduled to conduct an at-sea test onboard the Self-Defense Test Ship (SDTS) in FY18, which will be the first time a laser weapon is connected to ship's power and cooling, and the first time system tracks and laser weapon source tracks are integrated.

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For cyber, Navy is making limited initial investments in operational capabilities on our platforms which have the potential to be utilized for strategic effects in support of national, theater, or Fleet authorities. More information can be provided at the classified level upon request. [See page 29.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

FEBRUARY 25, 2016

QUESTIONS SUBMITTED BY MR. FORBES

Mr. FORBES. If Congress retains the current “2–4–6” modernization process for the Cruisers, when will Navy need to initiate a replacement design for the retiring cruisers? How does the Navy’s “Future Surface Combatant” requirements assessment support the replacement of the cruiser force structure?

Secretary STACKLEY. Under the 2–4–6 construct, the Navy will retire the final eleven Cruisers (CG 63–73) between FY35 and FY37. The ongoing Future Surface Combatant Capabilities Based Assessment (CBA) is examining potential solutions to close the capability and capacity gaps created by the retirement of the CG–47 class. The CBA is scheduled to be completed in FY16 and its results will inform the way ahead.

Mr. FORBES. It has been reported that costs are programmed to increase as Navy reduces the funding profile associated with the Littoral Combat Ship. What are the increased costs associated with a reduced funding profile that have been assumed in the fiscal year 2017 budget request?

Secretary STACKLEY. The President 2017 Budget Request reduced the quantity of LCS procurements from six ships in FY 2017–FY 2018 (three per year) to a total of three ships in FY 2017–FY 2018 (two in FY 2017/one in FY 2018). This quantity reduction will result in increased costs per ship due to loss in material savings, reduced labor efficiencies, and increased overhead. These impacts will be experienced resulting from a reduction in shipyard workload for both shipyards.

With the reduction in FY 2017–FY 2018 ship quantities, the Navy estimates that both the FY 2015 and FY 2016 ships will experience increased costs for Cost to Complete funding by \$83.7 million in FY 2019 (for the FY 2015 ships) and \$34.3 million in FY 2020 (for the FY 2016 ships) as reflected in the President’s 2017 Budget Request.

The Average unit cost for the FY 2015–FY 2018 ships has grown by \$30.8 million per ship from the FY 2016 to the FY 2017 Budget Request due to the reduction in quantity of three ships across FY 2017 and FY 2018. The total increase for the nine ships being procured in FY 2015–FY 2018 is \$277.5 million.

Mr. FORBES. Navy has indicated their intent to transition to a Frigate design for the small surface combatant and down select to a single production yard in fiscal year 2019. How does Navy retain the two production yards and what is the acquisition strategy that Navy intends to employ with the reduced funding profile? What is the most cost beneficial, minimum sustaining rate to maintain two production yards for the Littoral Combat Ship?

Secretary STACKLEY. The President’s 2017 Budget Request contains funding for two LCS in FY 2017 and one LCS in FY 2018, and assumes a transition to the Frigate beginning with one ship in FY 2019, one Frigate in FY 2020 and two Frigates in FY 2021. The Navy plans to continue the procurement of both LCS designs in FY 2017 in preparation for the transition to the Frigate and the downselect decision as soon as FY 2018.

This down-select decision will place one of the shipbuilders and the supporting industrial base at risk of closure. The Navy assesses that the minimum sustaining rate to maintain affordable production at both LCS/Frigate yards would be nominally 1.5 ships per yard per year.

Mr. FORBES. What steps could the Navy suggest to remove the high level of concurrency associated with the Littoral Combat Ship and the Mission Modules?

Secretary STACKLEY. The LCS is designed to defeat growing littoral threats and provide assured access and dominance in coastal and open waters. Each LCS hull can be tailored and configured for a single focused mission by embarking a Mission Package (MP). A Mission Package (MP) consists of a MM containing hardware, a mission crew, and required support aircraft. Three MPs are available to cover specific warfare areas, Mine Countermeasures (MCM), Surface Warfare (SUW), or Anti-submarine Warfare (ASW). The Fleet selects the MP to embark based on anticipated employment of the ship for a specific deployment or mission. MPs can be swapped out if the need arises. Additionally, the LCS MM program is structured to improve MM capability via planned increments. As Mission Systems are developed and fielded, they will be added to MMs.

The Navy is procuring the quantity of mission systems and packages needed for system integration, crew training, developmental testing, operational testing, and operational deployments. Mission package components are procured when the system development is mature enough to transition to production. The mission systems have all been demonstrated in a relevant environment prior to mission package integration. The Navy, as planned, is delivering operationally effective mission package capability to the fleet, preventing delays from waiting to acquire all mission systems needed to meet the full baseline requirement.

LCS's open architecture enables rapid and cost-effective technology insertion and spiral development capability delivering proven warfighting capability. One benefit of this approach is that LCS does not require lengthy modernization periods to change mission focus or incorporate new technology.

An example of successful MM development and integration is the deployment of USS FORT WORTH (LCS 3) with the SUW MP. The SUW MP is designed to provide the capability to detect, classify, track, and engage multiple groups of small boats, and supports the conduct of maritime security operations and maritime interdiction operations (compliant and non-compliant visit, board, search, and seizure). The MP is currently equipped with the Gun Mission Module and the Maritime Security Module. Meanwhile, the program office continues to integrate and test the surface-to-surface missile module (Longbow Hellfire missile). This allows the deployment of needed capability without waiting for full development and integration of future capability.

This modular approach, which allows, for incremental addition of capability as technology matures, is wholly consistent with the House version of the Fiscal Year 2017 National Defense Authorization Act.

Mr. FORBES. Should Navy retain the legacy Mine Counter Measure Ships until sufficient capability is provided to support Mine Counter Measure requirements that begin to retire starting in 2019?

Secretary STACKLEY. No, the extension of the AVENGER Class (MCM-1) Mine Countermeasure Ships is not the most cost efficient approach to support the operational requirement. The Navy's current plan for retirement provides flexibility for delayed replacement of mine countermeasures capability through 2023 in Bahrain, and 2024 in Sasebo. This will provide a significant overlap between the scheduled LCS MCM Mission Package deployments and the retirement of the legacy Mine Countermeasure Ships. Also, recent successes with operational integration of unmanned technologies within the Expeditionary Mine Countermeasure Companies already deployed to Bahrain will provide additional MCM capacity during the transition to the LCS MCM Mission Package.

Aging and specialized vessels such as the AVENGER Class (MCM-1) ships continue to experience rising costs of upkeep and declining operability. Extending the expected service life of the AVENGER Class (MCM-1) beyond the current plan would require increases in funding investments to achieve minimal added years of service. If Mine Countermeasure capacity is required for mitigation during the transition, the Navy intends to leverage the demonstrated effective and flexible unmanned technologies employed by the Expeditionary Mine Countermeasure Companies as adaptive force packages to provide the most cost-efficient delivery of future warfighting capability.

Mr. FORBES. Navy has proposed to reduce the *Virginia*-class submarine procurement concurrent with the *Ohio*-class submarine. In the Navy's estimation, does the industrial base have sufficient capacity to support a 2 *Virginia*-class submarine build rate concurrent with the *Ohio*-class submarine construction? What are the challenges that the industrial base needs to overcome to support a revision to the 30 year shipbuilding plan that would allow 2 *Virginia* class submarines per year during the next 10 years?

Secretary STACKLEY. The long-range 30-year shipbuilding plan proposes that the Navy build two VIRGINIA Class Submarines (VCS) per year for the next 30 years, with the exception that only one VCS is procured in the years that OHIO Replacement (OR) Submarines are authorized (Fiscal Years 21, 24, 26-35), due to fiscal constraints.

The Navy's Block V VCS contract is planned for FY19 through FY23 with two ships per year, except for FY21. The Navy is evaluating an option to add a second VCS ship in FY21. To ensure construction of the additional ship is executable, additional funding in FY19 with advance procurement (AP) and economic order quantity (EOQ) funding would be needed to commence long lead time material activities and optimize savings from EOQ material procurements. Adding a second VCS in FY21 can be accomplished with minimal change in current submarine shipyard capacity and would improve manpower loading.

Sustaining VCS production at two per-year consistently beyond FY23 concurrent with OR production requires a thorough study to ensure that submarine programs are executed affordably, sustain the industrial base, provide required capabilities to the Fleet and are balanced with other shipbuilding requirements in the next 30-year shipbuilding plan.

Mr. FORBES. Navy has proposed to replace the 14 *Ohio*-class submarines with 12 *Ohio*-class replacement submarines. There has been some discussion as to whether the requirement could be reduced even further. For example, a June 2010 report by a group known as the Sustainable Defense Task Force recommends reducing the SSBN force to 7 boats; a September 2010 report from the Cato Institute recommends reducing the SSBN force to 6 boats, and a September 2013 report from a group organized by the Stimson Center recommends reducing the force to 10 boats. Can you explain the requirement to procure 12 ballistic missile submarines vice some reduced requirement?

Secretary STACKLEY. Last year the CNO approved the requirement for 12 OR ballistic missile submarines and the Joint Requirements Oversight Council validated the requirement in order to meet the USSTRATCOM requirements for conducting the strategic deterrence mission. The Design for Maintaining Maritime Superiority, released by the CNO in January 2016, includes a line of effort to “Maintain and modernize the undersea leg of the strategic deterrent triad. This is foundational to our survival as a nation.”

The combatant commander requirement of 10 operational SSBNs is the minimum force structure needed to meet operational requirements in two oceans and support the Nation’s strategic deterrent mission. The current 14 OHIO-class SSBNs and the planned 12 OR SSBNs deliver the required 10 operational submarines in 2080. The requirement to procure 12 OR SSBNs allows the Navy to provide 10 operational SSBNs at any given time, while two SSBNs will be non-operational during their required mid-life maintenance overhaul periods.

The SSBN force is sized to keep the required number of platforms properly positioned, postured, and survivable at all times—geography, survivability and target coverage all play a role. The stealth, force structure, and CONOPS are what make the SSBN survivable. Any change to one of these affects the survivability of the SSBN fleet. Maintaining a sufficient force size contributes to SSBN survivability by enabling operational flexibility. The force structure requirement is the minimum number of SSBNs operating in large open ocean areas to remain survivable against a determined and persistent adversary, and is not tied to the number of warheads carried by each submarine.

Reducing the fleet below 10 operational SSBNs will significantly reduce survivability, degrade the strength of the sea-based strategic deterrent, and limit flexibility to respond to an uncertain strategic future (a more aggressive threat, for example). A smaller force structure is less survivable because operations become much more constrained and therefore more predictable.

Mr. FORBES. Congress provided expanded authorities as part of a National Sea-Based Deterrence Fund that would support the SSBN(X) program. CBO has assessed that should the Navy fully utilize the current authorities in the Fund, a savings of “several hundred million dollars” would result. Does the Navy concur with CBO’s savings estimate?

Secretary STACKLEY. The Navy’s initial cost assessment aligns with CBO’s projections, and these projections will be validated in August 2016 as part of an updated Cost Estimate to support OHIO Replacement SSBN Program Milestone B decision.

Mr. FORBES. Congress provided \$250 million to support the accelerated construction of the LX(R) class ship from fiscal year 2020 to fiscal year 2018. However, the administration did not provide sufficient funding in the fiscal year 2017 budget request to support continued acceleration efforts. What is the funding profile to support a construction award of the LX(R) class ship in fiscal year 2018?

Secretary STACKLEY. The Congressional addition of \$29M in FY16 RDT&E funding enables the Navy to accelerate the contract specification and technical data package development process such that a competitive Detail Design and Construction (DD&C) contract can be awarded in late FY18. The lead ship construction option exercise is currently budgeted in FY20. The Congressional add of \$250 million for accelerated construction advances the production planning and enables early procurement of long lead material in support of an accelerated production timeline (by approximately one year) following contract award.

An additional \$19M in FY17 is required to support full completion of Contract Design. Contract Design requires the development of subsystem details and a completed design, all to support the development of a final ship specification to be included in the technical data package for a competitive Request for Proposal release.

Mr. FORBES. With regards to ship to shore connector and the LCAC service life extension program, the administration has truncated the LCAC service life extension program in fiscal year 2017 and has reduced the procurement of the ship to shore connector from four ships to two. How does this reduction in amphibious lift support amphibious operations in a contested environment? What risk is the Marine Corps bearing to support these diminished requirements?

Secretary STACKLEY. Reductions to the LCAC Service Life Extension Program (SLEP) and Ship to Shore Connector (SSC) procurement in PB17 will not affect amphibious lift requirements in a contested environment.

An inventory of 72 LCACs is the requirement for steady state (CONUS/FDNF) operations and to deploy 62 LCAC craft (62 required to make 52, assuming 85 percent operational availability) to meet the 2.0 Marine Expeditionary Brigade Assault Echelon lift requirements.

These actions should not result in the USMC accepting additional risk. The LCAC SLEP reductions in PB17, coupled with a reduction in the LCAC 100/SSC program, will result in a five year "bath tub" with a low point of 66 craft. This remains above the minimum requirement for a major contingency and meets most of the steady state requirement. To fully meet steady state requirements, properly timed and funded Post SLEP Extensions are required to ensure the 72 LCAC retain the required service life.

Mr. FORBES. Navy has previously indicated a requirement of 10 Joint High Speed Vessels. Congress provided an 12th Joint High Speed Vessel in the Consolidated Appropriations Act of 2016. Does the Navy need additional Joint High Speed Vessels?

Secretary STACKLEY. The Navy's 2014 Force Structure Assessment update re-validated the requirement for Expeditionary Fast Transport (EPF), formerly Joint High Speed Vessels (JHSV), at ten ships. The Navy did not request any additional EPFs in the FY 2017 President's Budget because the battle force inventory will reach ten ships in FY 2018. EPF inventory will increase to 12 ships by FY 2020, due to the additional EPFs that Congress included in the FY 2015 Appropriations Act and Consolidated Appropriations Act of 2016.

Mr. FORBES. Navy has proposed to replace the UCLASS program with a new unmanned Carrier Based Aerial Refueling System (CBARS). However, the name denotes that the CBARS program will be exclusively devoted to refueling with little support to a long held ISR requirement by the carrier aviation community. Does the Navy intend to provide ISR capability on this new CBARS capability? If so, should Congress rename this capability to more adequately denote the desired capabilities?

Secretary STACKLEY. CBARS (MQ-25A) is a restructure of the UCLASS program. The MQ-25A program is envisioned to be an integral part of the future Carrier Air Wing, providing organic refueling and a tactical sea-based long-endurance Intelligence, Surveillance and Reconnaissance capability. To reflect a re-prioritized mission set, the Department has already initiated the re-designation process for Type/Model/Series from RAQ-25 (R-reconnaissance, A-attack, Q-unmanned) to MQ-25A (M-multi-mission, Q-unmanned).

Mr. FORBES. The P-8 Poseidon is a long range anti-submarine warfare aircraft and the MQ-4 Triton is a maritime surveillance UAV. How are the P-8 Poseidon and MQ-4 Triton related? Do the acquisition program objectives need to be synchronized to be effective? How the CBARS and MQ-4 Triton programs related and are their missions compatible?

Secretary STACKLEY. The P-8A Poseidon and MQ-4C Triton programs are related through a common analysis of alternatives initiated to find the best materiel solution to recapitalize the Navy's Maritime, Patrol, and Reconnaissance Force (MPRF). The analysis showed that a mix of manned and unmanned aircraft could not only continue the MPRF missions in a way that could pace the threat, but could also add persistence, meeting more of the warfighter's intelligence, surveillance, and reconnaissance (ISR) demand, enabling the Navy to hold maritime targets at risk earlier and over longer periods of time. Subsequently, the unique requirements for each capability were identified and acquisition program objectives defined, enabling each program to focus on its primary mission area. The P-8A Poseidon and MQ-4C Triton are complementary, with P-8A primarily performing cue-to-kill Anti-submarine Warfare (ASW) and Anti-surface Warfare (ASuW) missions and the MQ-4C providing persistent maritime ISR. Each program's acquisition objectives remain focused to achieve optimal capability. The fleet integration of each program is managed by the MPRF community to ensuring appropriate synchronization of these complementary capabilities.

The MQ-4C Triton and MQ-25A programs are independent of each other. The MQ-25A program will deliver a high-endurance unmanned aircraft to fulfill the aerial tanker role for the Navy's Carrier Air Wing (CVW), thus preserving the strike fighter's flight hours for its primary mission. It will also leverage the inherent range

and payload capacity of high endurance unmanned aircraft to provide critically-needed, around the clock, sea-based ISR capability in support of the Carrier Strike Group and the Joint Forces Commander. The Navy envisions that the open standards to be employed in the system design will enable greater flexibility and affordability for any future modifications to the aircraft after it has been fully integrated into the CVW.

Mr. FORBES. MQ-4 Triton provides a shore based maritime surveillance capability. However, Triton maritime surveillance does not provide direct support for the aircraft carrier strike group. How does Navy intend to provide sufficient ISR capability in direct support of a carrier strike group and specifically, how does the MQ-4 Triton or CBARS capability support this effort?

Secretary STACKLEY. The Carrier Strike Group and the Joint Force Maritime Component Commander require intelligence, surveillance, and reconnaissance (ISR) capability that is persistent and provides both multiple sensor coverage and depth of surveillance from the vital areas of the sea base to beyond the maximum striking range of potential adversaries. MQ-4C Triton and MQ-25A will provide complementary support for this effort. MQ-4C Triton will provide land-based, multiple sensor, persistent maritime airborne ISR independently or in direct support to Fleet and Strike Group Commanders. While the Navy anticipates MQ-4C Triton will primarily be tasked independently to areas at great distances from an aircraft carrier, Triton will provide its correlated sensor data directly to the Carrier Strike Group via tactical communications networks. Simultaneously, Triton's sensor data will be available for follow-on processing at exploitation nodes which also feed the Carrier Strike Group's operational picture. The MQ-25A program is envisioned to be an integral part of the future Carrier Air Wing (CVW), providing organic refueling and a tactical sea-based long-endurance Intelligence, Surveillance and Reconnaissance capability. The Navy envisions that the open standards to be employed in the system design will enable greater flexibility and affordability for any future modifications to the aircraft after it has been fully integrated into the CVW.

Mr. FORBES. Are 50 Long Range Anti-Ship Missiles (LRASM) that have been proposed between fiscal year 2017 and 2019 sufficient to support PACOM joint urgent operational requirement? Why has Navy proposed to truncate the production line of LRASM in fiscal year 2020? What options are being pursued to provide a submarine/surface launched LRASM variant?

Secretary STACKLEY. Yes, the PACOM joint urgent operational requirement is sufficiently supported by the procurements in FY 2017 through FY 2019 of 110 LRASM missiles (50 missiles for USAF and 60 for USN). This is referred to as the Offensive Anti-Surface Warfare (OASuW) Increment I piece of the Department's Cruise Missile Strategy, which is the material solution to meet the near to mid-term threats. Procurement of additional weapons beyond FY 2019 will be competitively awarded as part of the Department's OASuW Increment II program, which will also address future threats. Funding for this program was part of the Department's budget submission as a new start in FY 2017. It is expected that a LRASM variant will be part of the competition for this OASuW Increment II program.

There is currently no government-funded activity to provide a submarine/surface launched variant of LRASM. DARPA conducted a single vertical launcher demonstration at the White Sands Missile Range as part of its LRASM demonstration program and the prime contractor, Lockheed Martin, intends to pursue a company-funded demonstration from a Navy ship in the near term.

For submarine/surface launched cruise missiles, the Department's Cruise Missile Strategy includes the following efforts: support of Tomahawk Land Attack Block III and Tactical Tomahawk (TACTOM) Block IV through anticipated service lives; integration of modernization and obsolescence upgrades to TACTOM during a mid-life recertification program (which adds 15-years of additional missile service life); and development of the Next Generation Land Attack Weapon (NGLAW). Tomahawk upgrades will include development of Anti-Access/Area Denial (A2AD), navigation improvements and communication upgrades, as well as commencement of the development of a seeker to enable maritime engagements. NGLAW will be the submarine/surface launched weapon to address future threats under the broader Next Generation Strike Capability and is projected to reach Initial Operational Capability in the 2028-2030 timeframe.

Mr. FORBES. The Harpoon missile is the largest Navy anti-ship missile with over 7,500 missiles having been built through the program. However, the range of this older missile and the capability of the seeker put Navy ships at risk as compared to other nation's anti-ship missiles. Even the United States export variant is more capable than the United States Navy's Harpoon missile. What are the Navy's plans to correct this significant deficiency?

Secretary STACKLEY. To mitigate this capability gap in the near- and mid-term, the Navy is leveraging current systems to enhance over-the-horizon (OTH) anti-ship capability, adding capacity across the surface force by increasing the number of surface ships that can hold potential adversaries at risk over extended ranges.

—The FY17 budget submission includes \$439M across the FYDP to develop a maritime strike capability for the Tomahawk Land Attack Missile (TLAM) (IOC no later than FY22) in addition to other planned communications and navigation upgrades.

—The Department is making affordable investments to the family of Standard missiles that significantly increase warfighting capability. These improvements provide multi mission capability to existing in-service weapons, planned incremental upgrades and future weapon procurements.

—These investments in multi-mission Vertical Launch System (VLS) capable weapons provide additional OTH anti-ship capabilities with minimal investment in RDT&E and ship integration.

—Additionally, the Navy is conducting demonstrations of two different OTH missile systems onboard two Littoral Combat Ships (LCS) during FY16 to inform potential backfit for both variants of LCS as well as informing future Frigate (FF) requirements. Our plan is to then investigate full and open competition opportunities to deliver an LCS/FF OTH anti-ship missile capability.

To address long-term capabilities, the Navy will commence an analysis of alternatives in FY16 to support development of a next generation surface-launched long range strike weapon which will have both land attack and anti-ship capability. The resultant multi-mission weapon will address long-term land attack and anti-ship capability gaps to counter emerging anti-access/area denial (A2/AD) threats and increasing adversary surface ship capabilities while leveraging common technologies.

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. I have long been an advocate of Directed Energy weapons systems, and I am glad that technologies are beginning to transition out of the lab into operational units, such as the 30-kilowatt laser on the USS *Ponce*. Moving forward, how can we best couple our naval platforms with our strategic weapons systems when it comes to areas such as Directed Energy, or cyber?

Secretary STACKLEY. Directed Energy (High Energy Laser [HEL] and High Power Radio Frequency [HPRF]) Weapon Systems offer significant potential benefit to the Department of the Navy's warfighting capability and will complement traditional kinetic weapons (such as guns and missiles) in a layered defense scheme. Much has been learned from the Navy's design, development, deployment, and operation of the Laser Weapon System (LaWS) onboard USS *PONCE*. Lessons learned from the LaWS deployment feed the Solid State Laser Technology Maturation (SSL-TM) development; which will design, build, test, and demonstrate a 150-kW Laser Weapon System Demonstrator that will mature component technologies of the laser system and subsystems. SSL-TM is scheduled to conduct an at-sea test onboard the Self-Defense Test Ship (SDTS) in FY18, which will be the first time a laser weapon is connected to ship's power and cooling, and the first time system tracks and laser weapon source tracks are integrated.

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General WALSH. The Marine Corps is interested in directed energy weapons. Through our Science and Technology (S&T) portfolio, as well as the Office of Naval Research (ONR) and the Defense Advanced Research Projects Agency (DARPA), we continue to evaluate advances in directed energy technology in conjunction with challenges faced by the USMC. We have identified challenges in our Ground Based Air Defense (GBAD) portfolio where we are interested in evaluating potential solutions provided by directed energy technology. For instance, a future battlefield presents unique hybrid challenges where an enemy may use small Unmanned Aerial Systems (UAS) to ascertain our disposition on the battlefield in order to enable massed fire on our formations. Small UAS present a particularly difficult problem for traditional weapons systems and targeting assets. The Ground/Air Task Oriented Radar (G/ATOR) coupled with a directed energy weapon could provide an expeditionary and lethal solution. We will continue to investigate our entire portfolio for areas where this technology can provide superior capabilities to the warfighter.

To address your cyber comments, we are fully committed to the importance of this domain in the current and future battlefield. The Commandant has directed a force structure review termed 'Marine Corps Force 2025' where we are evaluating the entire force structure against the future operating environment and threats, inclusive of cyber warfare. We have also stood up Marine Forces Cyber (MARFORCYBER) to provide operational forces in this arena. Finally, the Marine Corps has created an office for the Assistant Deputy Commandant for Information Warfare (ADC, IW) through which we are evaluating future cyber capabilities and supporting information related capabilities such as information operations, maneuver in the electromagnetic spectrum, signature reduction, and big data analytics to rapidly assess myriad sensor inputs. The intent is to effectively integrate and synergize all capabilities so commanders can "make sense and act" at a tempo unmatched by our adversaries.

QUESTIONS SUBMITTED BY MR. BYRNE

Mr. BYRNE. The Office of the Secretary of Defense paused the LCS program for about 9 months to allow the Navy, the shipbuilders and service providers to do an in depth analysis. This analysis came up with a shipbuilding plan and stated the need for 52 LCS/Frigates and included the dual supplier buy strategy which kept the cost of the ship down and ensured stability in the industrial base. Abruptly the proposed plan is to decrease from 52 to 40 and includes a single supplier. Has the Navy engaged in any preliminary actions to begin the down select process? If so please explain to what extent this has occurred?

Secretary STACKLEY. The Navy plans to competitively award one LCS to each shipbuilder in 2017, and proceed with completion of respective Frigate designs to support a competitive down-select to a single shipbuilder in 2018 based on the proposed Frigate design. This acquisition strategy sustains competition for the single ship awards in 2017 and delivers the desired Frigate capability ahead of the original, approved schedule. However, it is recognized that this down-select decision also places one of our shipbuilders and much of the support industrial base at risk of closure. The Navy will use this current period of stable production—prior to the down-select decision—to thoroughly assess the impact of such potential closure on our strategic shipbuilding industrial base, the cost of our shipbuilding program, and our ability to support in-service ships, in order to identify appropriate actions to mitigate these impacts to the extent practical.

Mr. BYRNE. The Navy's stated goal in the Shipbuilding Plan is a fleet of 308 ships. While other classes of ships are seeing cuts as well, cutting the total number of LCS from 52 to 40 is a move in the wrong direction at a time when we need to grow U.S. naval presence around the world. With the expected cuts to the LCS program will the Navy be able to meet their stated goal of an end strength of 308 ships?

Secretary STACKLEY. Yes, the Navy will reach 308 ships by the end of FY 2021. Shipbuilding plans for FY 2017 and beyond will determine the size of the Navy after 2021 because of the time necessary to build a ship. The ships that will be delivered by the end of FY 2021 to reach a total of 308 ships have already been authorized and appropriated in prior years. However, the reduction in the LCS program will impact the fleet size after 2021.

Mr. BYRNE. The President's Budget calls for the decrease of the LCS from 52 total ships down to 40. This type of unexpected change will undoubtedly increase the cost of these ships. Is it true that the President's Budget accounts for this at about a 20% cost increase per ship?

Admiral MULLOY. The Fiscal Year (FY) 2017 President's Budget Request shows an approximate 20 percent cost increase per ship as reflected in the end cost average unit costs between FY 2016 and FY 2017. While most of this premium is due to procuring one less ship, some of the premium results from the new contract award in FY 2017 (the original block buy contract completed in FY 2016).

The quantity reduction results in increased costs per ship due to loss in material savings, reduced labor efficiencies, and increased overhead. These impacts will be experienced as a result of a reduction in shipyard workload for both shipyards for FY 2017.

Mr. BYRNE. Admiral Harris, the PACOM Commander, mentioned at a Full Committee hearing on February 24th that the Expeditionary Fast Transport (EPF) has an incredible ability to not only move people and machines but also have the capacity to build out other capabilities such as adding an expeditionary field hospital and turn it into a mobile hospital ship. The original need for Joint High Speed Vessels was 18 and in recent years the number has significantly decreased. What caused this decrease and what is the need by the Marine Corps for this type of capability moving forward?

General WALSH. Of the original 18 Expeditionary Fast Transports (EPF), 13 were designated for the Navy and 5 were for the Army. The 01 November 2012 Gate 6 Sufficiency and Configuration Steering Board (CSB) memo for the EPF stated that PB13 truncated the program from 18 to 10 ships. The PB13 30-year shipbuilding report to Congress identified this drop as a function of two things. First, the overall requirement for JHSVs fell to 10 ships. Second, the Department of the Army transferred the 5 JHSVs it procured to the Department of the Navy as an efficiency measure. These two actions prompted the DON to halt planned JHSV production at 10 ships. Subsequently, the 2014 interim update to the Force Structure Assessment (FSA) revised the requirement to 11 vessels. OPNAV N81 is currently revising the FSA for 2016, the results of which are expected at the end of summer 2016.

The MARFORs will continue to work with their respective NAVFORs to utilize EPFs for intra-theater lift requirements and support of the Geographic Combatant

Commander's (GCC) theater security cooperation (TSC) plan. To date EPF ships have been used in conjunction with Marine Detachments for Southern Partnership Station, TSC operations along the west coast of Africa, evacuation contingency for the Sochi Olympics, as well as fleet experimentation. The EPF provides intra-theater troop/equipment lift options which allows the conduct of alternative platform missions such as providing mobility for elements of a Special Purpose Marine Air Ground Task Force-Crisis Response (i.e. TSC-sized force) while meeting presence/deterrence/assurance in the GCC's purview.

QUESTIONS SUBMITTED BY MR. HUNTER

Mr. HUNTER. The Navy invests billions of dollars every year to acquire, sustain, modify and extend the service life of many different types and sizes of weapon systems. Paramount in protecting these investments and ensuring the effectiveness of these weapon systems is the challenge of managing all of the data, through Product Lifecycle Management (PLM).

Naval Aviation is taking the role as Lead Systems Integrator for the UCLASS unmanned aircraft and other programs, and I'm hopeful this will result in cost savings over relying on prime contractors to act as the LSI.

Do you see the Navy assuming more lead system integrator roles, as shown by the designation of the UCLASS program in the future?

Secretary STACKLEY. In all cases the Department of the Navy (DoN) seeks to optimize management structures to best support program outcomes through all phases of acquisition and sustainment. This is a key consideration in the preparation of our acquisition strategies and life cycle sustainment plans. We support and comply with the provisions of Public Law 110-181, Section 802, which limits assignment of the Lead Systems Integrator (LSI) once low rate initial production has been achieved. DoN has undertaken initiatives which ensure the acquisition workforce is capable of filling the role of the LSI, where appropriate. These initiatives include the development and advancement of the organic technical capability that resides within the Naval Research & Development Establishment. This technical capability provides a solid foundation for DoN acquisition efforts and supports the acquisition workforce in successfully executing the LSI role.

In the case of UCLASS and the restructured MQ-25A program, PMA-268 is serving as government LSI for the Unmanned Carrier Aviation (UCA) program. The Navy is using the LSI construct in an attempt to: improve affordability across the system of systems life cycle; speed of capability delivery to the warfighter; increase government agility to react to and manage emerging technology; and the maximization of system of systems value over time.

As government LSI, PMA-268 has developed and manages a government-owned enterprise UCA architecture that includes open architecture interface standards. This approach has enabled the program to leverage significant prior DoN and joint investments across over 70 stakeholder systems, programs of record, and SYSCOMs (e.g. networks, TCPED, communications, avionics, etc.), and may provide further affordability opportunities after an Air System contractor is selected.

Mr. HUNTER. Does NAVAIR have a need to conduct timely readiness, oversight, and cost assessments in support of technical and programmatic reviews for Program Executive Officers, program managers and resource sponsors to improve Navy procurement, design, production, logistics and readiness productivity on both Navy-led and Contractor-led programs?

Secretary STACKLEY. NAVAIR conducts a variety of assessments in support of our acquisition and in-service programs.

The Department of the Navy policy requires that ACAT I-IV programs have an Independent Logistics Assessment (ILA) conducted at each major program milestone, at two years POST-Full Rate Production (FRP) and every five years thereafter. The purpose of each major milestone ILA is to provide the milestone decision authority (MDA), program manager, program sponsor, customer, and other stakeholders with an effective measure of the program's integrated product support (IPS) planning and execution. Assessments independent of the system developers ensure an impartial evaluation of a program's product support status. The ILA process provides an effective method for evaluating risk, life cycle cost, supportability, and system product support performance from a total ownership cost perspective. The purpose of the Post FRP ILAs is a multi-disciplined product and process assessment to ensure that the system under review is operationally employed with well-understood and managed risk. The Post FRP ILA is intended to characterize the in-service health of the deployed system. It provides an assessment of risk, readiness, technical status, and trends in a measurable form. These assessments substantiate in-

service support budget priorities. The consistent application of sound programmatic, systems engineering, and logistics management plans, processes, and sub-tier in-service stakeholder reviews will help achieve the Post FRP ILA objectives.

In a similar manner, the Weapons Maintenance Readiness Review (WMRR) process follows an enterprise model that includes NAVAIR, fleet and resource sponsors. The semi-annual reviews assess all weapons and target program supportability risks and issues. Risk mitigation or issue resolution recommendations are considered, business cases are analyzed and recommendations are forwarded to the WMRR stakeholders for adjudication. The vast majority of weapons are direct production to long term storage with little recurring/scheduled maintenance. Weapons maintenance and readiness status is generally assessed by Original Equipment Manufacturer (OEM) periodic All Up Round (AUR) or sub-system factory testing or LOT/age sample AUR fleet firings.

Additionally, all Program Executive Offices (PEOs) have processes in place to manage their program portfolios. Examples include semi-annual or annual program reviews (e.g., Program Management Reviews, Executive Steering Reviews, etc.) to include facets and attributes of logistics and supportability. These reviews report on readiness and cost drivers and initiatives to address program risk and issue resolution.

NAVAIR also utilizes the Naval Aviation Enterprise (NAE) construct to conduct readiness reviews on Type/Model/Series (T/M/S) on a yearly cycle. The T/M/S reviews bring together the program manager with the fleet T/M/S Navy lead Commander and/or Marine Air Group (MAG) Commander, resource sponsors, engineering, maintenance, supply, and logistics providers to examine readiness, cost, procurement, design and inventory management issues. This rigorous approach involves a three-step review: 1) an O-6 level Type Commander (TYCOM) Readiness Workshop (TRW); 2) a two-star flag-level Current Readiness Cross Functional Team (CR CFT) review; and 3) a three-star NAE Air Board review that includes the Commander, Naval Air Forces (CNAF), Deputy Commandant for Aviation (DCA), and the Commander, Naval Air Systems Command (NAVAIR). Each T/M/S and its associated readiness posture is thoroughly analyzed, leading to recommendations and implementation of current and future readiness approaches that optimize support to fleet operational/training requirements. Additionally, a weekly Executive Communication (EXCOMM) is conducted at the three-star level to discuss and address pressing cost, procurement, design, production, logistics, and readiness productivity issues affecting Navy and Marine Corps organic and contractor-led programs.

In addition to NAVAIR-lead reviews and assessments, NAVAIR also supports numerous reviews and assessments conducted for major programs by the office of the Assistant Secretary of the Navy for Research, Development and Acquisition and the office of the Under Secretary of Defense for Acquisition, Technology and Logistics.

Mr. HUNTER. With Naval Aviation in charge of a large complex program like UCLASS, and in other programs in the future, and with so much data produced from design to disposition, do you see challenges in managing all of this data produced from disparate commercial and government IT sources?

Secretary STACKLEY. Both government and industry are faced with today's challenge of properly managing the complexity and volume of data found in today's systems. NAVAIR has recognized the need to manage data as an asset so data can be turned into actionable information. Guidance, standards, and policy are being developed to make data more transparent, reusable, integrated and accessible. For example, a metadata standard has been developed to enable NAVAIR to manage data throughout its life cycle and improve interoperability. Information exchange standards and methods are being developed to improve data accessibility and security. Efforts are underway to investigate methods to providing a digital thread of data across the product life cycle from design to disposal.

Mr. HUNTER. With the rapid growth of Additive Manufacturing (3D printing) in NAVAIR, do you believe managers and engineers have the software tools they need to produce accurate digital data sets and a digital twin of Navy products and Parts throughout its lifecycle? Is that a looming problem for NAVAIR and other Navy agencies that are beginning to engaged in Additive Manufacturing?

Secretary STACKLEY. Significant commercial investment in Additive Manufacturing (AM) technology and expanded use in commercial industry have exponentially improved the quality of components made via multiple AM processes and expanded its use to include multiple materials. Department of Navy (DoN) and NAVAIR have leveraged this commercial investment to develop the processes and data using AM technology to directly manufacture needed parts and components for our systems.

NAVAIR's concept and use of AM technology for everything from polymer prototypes to metal safety critical components has highlighted a number of requirements

that must be met to ensure that AM parts can be produced with consistent quality and be safely used with NAVAIR weapons systems.

“Digital Thread/Digital Twin” capabilities are needed to enable broad use of AM and manage the digital data required—including computer aided design and manufacturing, product life cycle management and data management software, digital data architectures to ensure we have a standardized set of data components, and cyber security tools to protect AM data.

Early in 2016, a Department of Navy AM Implementation Plan was developed to focus research and development activities for AM and accelerate AM implementation for the operational and logistics communities. The AM Implementation Plan identifies five primary goals to enable AM implementation and provides detailed roadmaps to meet each of them; digital AM data and the framework and tools to manage that data are called out specifically in the AM Implementation Plan.

NAVAIR has begun developing Digital Thread capabilities at our Aviation Depots to enable use of AM and other digital manufacturing technologies to improve readiness. Initial development of cyber security approaches for AM and standards for managing AM technical data will be completed in 2016. Detailed planning for implementation of “Digital Thread” capabilities is occurring now and is in accordance with the DoN AM Implementation Plan.

Mr. HUNTER. Is there a cost savings if the Navy procured an overarching Product Lifecycle Management (PLM) Software system that could read multiple IT disparate data sets, and allow stove-piped contractor provided software systems to be consolidated and reduced?

Secretary STACKLEY. The Department of Navy continually reviews its defense business systems, including logistics information technology systems and product lifecycle management technology, to optimize the balance of investment and warfighting effectiveness. This investment management process, governed by 10 U.S.C. 2222, allows the Department to make informed investment decisions that are aligned to strategy while enhancing interoperability through common architectures and computing infrastructure. As a part of the investment approval process, the Navy continually assesses opportunities to phase out legacy systems and consolidate functionality to achieve maximum efficiency in all portfolios, to include logistics.

QUESTIONS SUBMITTED BY MR. PETERS

Mr. PETERS. What is being done to assess and solve the problems related with future use of the SEALs underwater delivery vehicle, namely that the *Virginia*-class submarines will only be able to have one of them attached, as opposed to the *Ohio*-class that can fit two? Is the issue being studied on what can be done, other than prolonging the life of the *Ohio*-class subs, to ensure capabilities and redundancies?

Secretary STACKLEY. The first four OHIO Class SSBNs were converted within their service life to SSGNs because they were no longer required for strategic deterrence. The SSGNs will be at their maximum 42 year service life starting in 2026 and cannot be prolonged. The remaining OHIO Class SSBNs are necessary for strategic deterrence and will have reached their maximum service life as they are replaced by the OHIO Replacement SSBNs, and therefore, will not have service life remaining to convert to SSGNs.

The VIRGINIA Class submarine mission areas include Special Warfare and the VIRGINIA Class Operation Requirements Document (ORD) requires support for one Dry Deck Shelter (DDS). VIRGINIA Class submarines currently accommodate Special Operations Forces (SOF) missions including the capability to deploy one SEAL underwater delivery vehicle. The VIRGINIA Payload Module (VPM) planned for Block V and later VIRGINIA Class submarines will retain these same SOF capabilities, including deploying one SEAL underwater delivery vehicle.

The Submarine Fleet Commanders and COMNAVSPECWARCOM, along with OPNAV and NAVSEA recognized the impending loss of the unique SSGN capability and established working groups in early 2015 to review operational requirements and develop strategies to utilize VIRGINIA class submarines to replace the SSGN capability. These studies are expected to complete later this calendar year and inform the number of VIRGINIA Class SOF host submarines required to meet known and future mission requirements, including those involving the SEALs underwater delivery vehicles.

Mr. PETERS. Some shipyards in San Diego, particularly General Dynamics NASSCO, build, repair, and maintain both U.S. Navy and U.S.-flag commercial ships. Can commercial shipbuilding in fact help to lower the costs of U.S. Navy ship construction in the same facilities as well as help to maintain skilled workers for Navy shipbuilding? Can you give us an example and describe any other benefits?

Secretary STACKLEY. The Navy's military preparedness depends on the private sector for shipbuilding and maintenance of the Fleet. The Navy has encouraged the shipbuilders to explore commercial shipbuilding opportunities, where feasible, to help reduce the costs of Navy shipbuilding programs. If the shipbuilder is able to obtain new commercial shipbuilding projects, the Navy will potentially benefit on existing contracts and any future Navy work. The benefits may include the reduction of some portion of fixed overhead expenses and retention of a critical skilled workforce for existing and future Navy work.

Gaps in shipbuilding due to Navy shipbuilding profile changes can result in engineering and production work force gaps with our industry partners that impact the cost of future Navy new construction and repair work. These gaps may cause companies to lay off significant numbers of its production workforce, which will potentially force them to re-hire and re-train employees, with negative effects on productivity and quality. Absent commercial work, remaining Navy shipbuilding and repair work will be left to fund all shipyard overhead, driving up costs of Navy work as available yard capacity is underutilized.

The production gap at General Dynamics National Steel and Shipbuilding Company (NASSCO) resulting from the Navy Expeditionary Sea Base (ESB) (formerly MLP) shipbuilding profile is a good example. The Navy has implemented a Shipbuilding Capability Preservation Agreement (SCPA) with NASSCO to promote future growth in commercial shipbuilding work at NASSCO. NASSCO was able to obtain commercial work to fill its production gap and likely avoided the potential lay-off of significant numbers of its production workforce. In addition, the commercial work allowed for a cost sharing of shipyard overhead costs with commercial customers.

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QUESTIONS SUBMITTED BY MRS. WALORSKI

Mrs. WALORSKI. The Navy's maritime surveillance fleet is reaching the end of its service life and the Navy is recapitalizing this mission. Given the critical importance of maritime surveillance to our national security and our economy, we cannot afford a gap in this capability. A big part of the recapitalization plan is the MQ-4C Triton unmanned system, which will provide persistent surveillance with an advanced maritime radar capable of providing detailed surveillance of millions of square miles of ocean. Does the Navy have sufficient resources to meet its global requirements for maritime surveillance? How do unmanned systems like Triton help address some of the perennial ISR shortfalls we frequently hear about?

Secretary STACKLEY. Unmanned systems like MQ-4C Triton help address the ever-increasing demand for intelligence, surveillance, and reconnaissance (ISR) by leveraging their inherent reach and persistence and integrating with manned plat-

forms to hold potential adversaries at risk earlier and over longer periods of time. Sufficient resources exist within the President's Budget to meet our commitments for the Navy's contribution to global ISR as prioritized by the Department. By the end of 2020, the Navy's Maritime ISR capacity fielded in support of the Global Force Management Allocation Plan will exceed that which is currently fielded.

Mrs. WALORSKI. This committee has recently heard from General Breedlove, Commander of EUCOM, and Admiral Harris, Commander of PACOM. Both described the challenges posed by operating in anti-access/area denial (A2/AD) environments and that we must keep the focus on improving our EW ability. From your perspective, what portfolio capability gaps currently exist and what can installations like Crane and other Navy Labs do to further enhance this mission and their contribution?

Secretary STACKLEY. While specific Electromagnetic Maneuver Warfare (EMW) gaps are classified, it is critical for our Naval Laboratories, Warfare Centers and Systems Centers to continue the work they are executing to develop and sustain Electronic Warfare (EW) and EMW systems.

Several examples include:

- Naval Surface Warfare Center Crane provides surface EW expertise for the SLQ-32 and its Surface EW Improvement Program (SEWIP) version 6 and 7; the Advanced Off-board EW system; and Nulka Decoys.

- Naval Surface Warfare Center Dahlgren provides development of the Real-Time Spectrum Operations system for surface platform management and deconfliction of the Electromagnetic Spectrum fleet usage, as well as deployment of the Electro-magnetic Railgun.

- Naval Undersea Warfare Center Newport provides expertise for undersea platform EMW systems and platform integration including work related to the BLQ-10 Electronic Support Measure as well as Electro-optics, antenna and communications systems.

- Naval Air Warfare Center Weapons Division, Point Mugu provides air EW self-protect and stand-off jammers, infrared countermeasures, threat simulation and jamming technique optimization, also platform integration for EA-18G.

- Space and Naval Warfare Systems Center Pacific provides integrated Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) solutions integrating forces, platforms, and functions into coordinated operational capabilities.

- Naval Research Laboratory provides research expertise across all facets of EWM including radar systems, optical sensors and optics-based sensors, advanced electronic support measures techniques; and electronic warfare systems, techniques, and devices.

In recent years the addition of Congress' authorization for Naval Innovative Science and Engineering, Section 219, funding has become especially important to ensuring our Naval Laboratory, Warfare Centers and Systems Centers and their respective workforce have state of the art technology and the means to physically and virtually collaborate in exploration of critical EMW Naval Gaps and to create a stream of innovation in this critical mission area.

Mrs. WALORSKI. This committee recently heard from General Breedlove, Commander of EUCOM, and Admiral Harris, Commander of PACOM. Both expressed their need for more submarines and more long-range weapons in order to address the ever growing threats posed by Russia and the threats in the Indo-Asia-Pacific region. What role does the Navy's *Virginia* Payload Module program play in the development and acceleration of delivering the right weapons to address these growing threats?

Secretary STACKLEY. The VIRGINIA Payload Module (VPM) will eventually recapitalize the loss of undersea strike capacity when the nation's four guided missile submarines (SSGN) retire. The VPM will enable the Navy to increase the volume of strike capacity over non-VPM VA Class boats and provides further options for delivery of future payloads to address growing threats around the globe.

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